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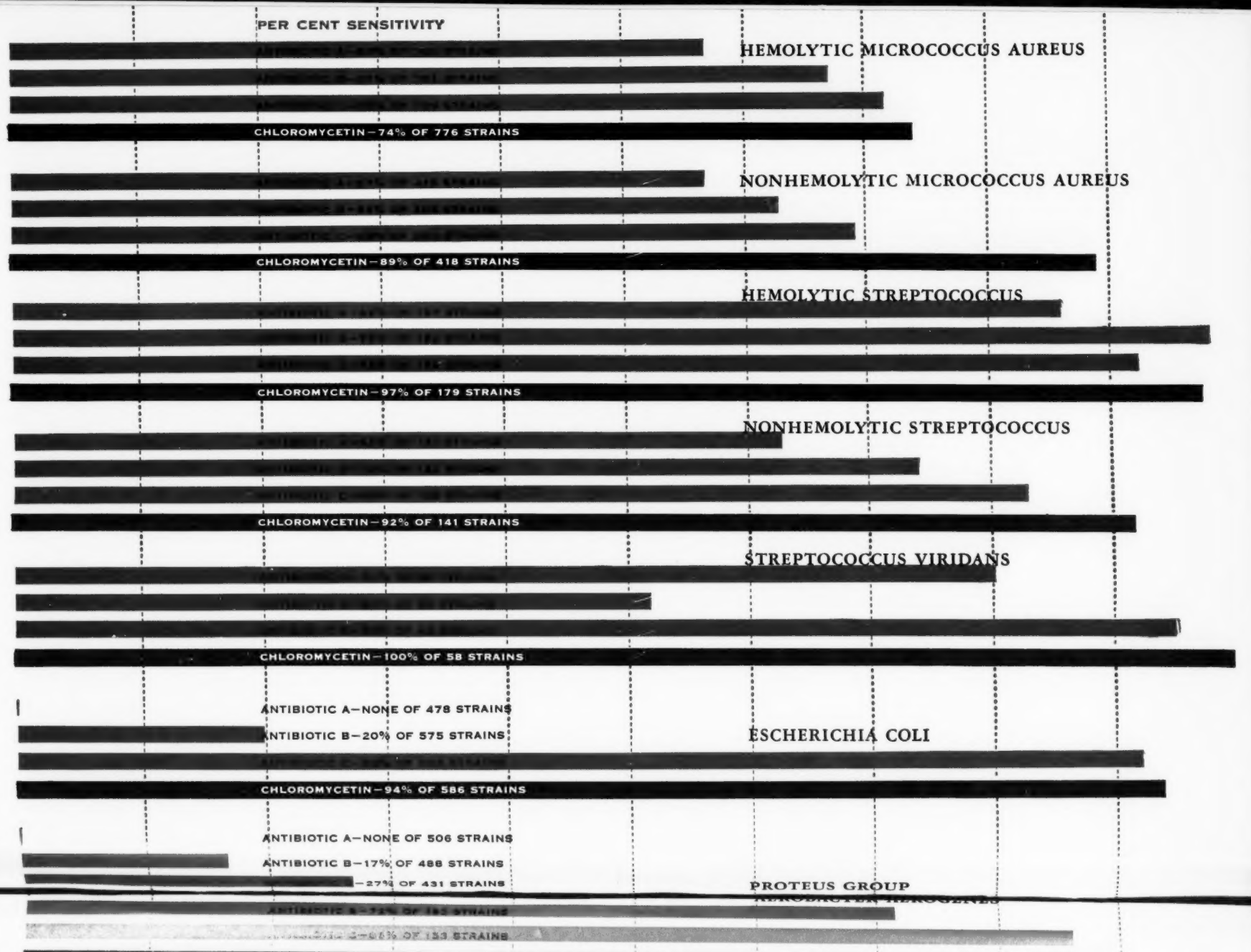
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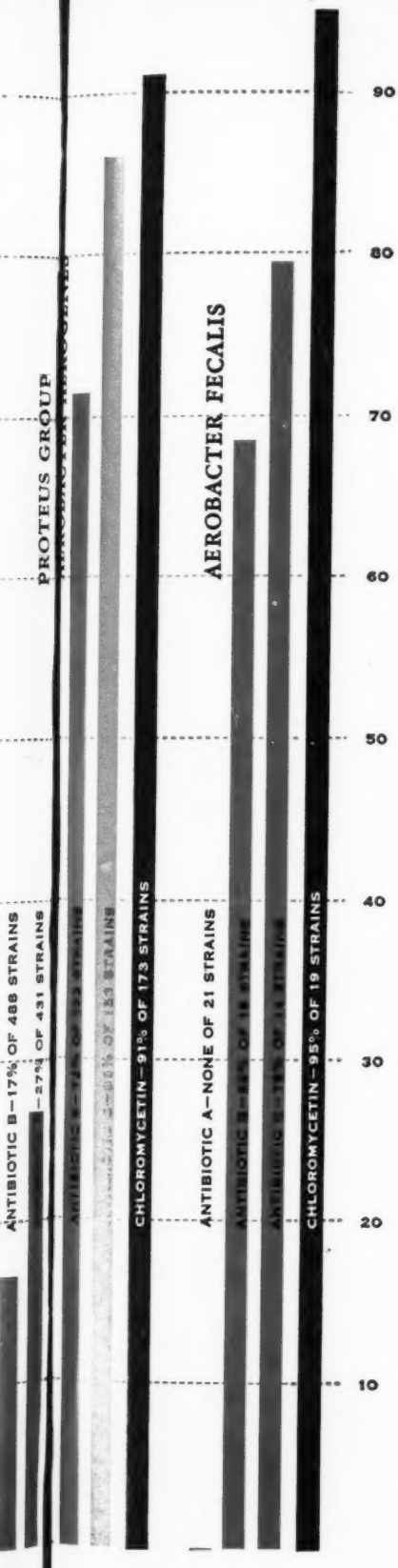

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Symposium on the Differential Diagnosis of Diseases Associated with Jaundice: I. Role of the History and Physical Examination

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ROCHESTER, MINN.

"No man is infallible in the diagnosis of jaundice." This statement made by Lord Moynihan some 60 years ago is still true today, in spite of the fact that we now have at our disposal a large number of diagnostic tools which were not available to physicians of his time. There is no question that these new tools, when properly used, have greatly improved our diagnostic accuracy. For this reason perhaps, there has been a growing tendency to overlook the fundamental importance of the clinical history and the physical examination and to rely almost too heavily upon laboratory procedures. Recent medical school graduates often seem to have the notion that the only necessary approach to the problem of jaundice is to order a battery of liver function tests and a needle biopsy of the liver. Such an approach, I am sure, does not always lead to the best diagnostic accuracy nor to the most advantageous treatment. Laboratory studies, valuable though they may be, must be interpreted in the light of all the information obtainable from a carefully taken history and a carefully performed physical examination. Unless the physician is in the habit of thoroughly evaluating this clinical information he will not be in a favorable position to make a diagnosis when the results of laboratory studies are equivocal, misleading or even in error.

I should like to review briefly some of the fundamentals in the diagnosis of jaundice which pertain to the history and physical examination. It will be impossible to consider in detail all of the many different diseases causing jaundice. Only general principles can be outlined and only some of the significant diagnostic points in regard to the common diseases can be discussed.

Classification of Jaundice

To begin with, it is helpful to keep in mind a classification of the causes of jaundice. That of McNee, though it no doubt is an oversimplification, is as useful as any I know. It divides all types of jaundice into three main groups: (1) hemolytic, (2) hepatocellular and (3) obstructive.

HEMOLYTIC JAUNDICE. — Hemolytic jaundice is rarely confused with the other two types and for this reason I shall not devote more than passing attention to it. Jaundice of this type is due to excessive destruction of red blood cells and is not indicative of hepatic or biliary tract disease. It is associated with anemia and with an increased concentration of *indirect* reacting bilirubin in the blood. The most commonly encountered jaundice of this type is congenital hemolytic icterus, which is usually readily diagnosed by a positive family history, the presence of an enlarged spleen, the typical appearance of spherical microcytosis in the blood smear, and increased fragility of the red blood cells. An important diagnostic characteristic is the absence of a history of the passage of dark urine during attacks of jaundice. This distinguishes it from both obstructive and hepatocellular disease in which the jaundice is due to an increase in the blood level of *direct* reacting bilirubin which is regularly excreted in the urine.

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Read before the Florida Medical Association, Eightieth Annual Meeting, Hollywood, April 27, 1954.

One possible confusing factor with regard to the diagnosis of congenital hemolytic jaundice should be mentioned. Because of the excessive formation of bilirubin from the destruction of blood and its excretion into the biliary tract, gallstones are frequently found in this disease (approximately 60 per cent of cases). These can give rise to an obstructive type of jaundice, and the clinician may therefore find coexisting evidence of both types of jaundice (hemolytic and obstructive) in the same person. If the underlying hemolytic disease is recognized and if the frequent association of gallstones is appreciated, an accurate diagnosis of such mixed types of jaundice can frequently be made.

Before leaving the subject of hemolytic jaundice I should like to consider one other variety, which though definitely not hemolytic is best classified under this heading because the jaundice is due to an increase in the *indirect* reacting serum bilirubin. This is a condition called "constitutional hepatic dysfunction." This is characterized by mild, fluctuating or intermittent jaundice usually first appearing early in life and persisting for many years without progression. The only associated symptoms are fatigability and asthenia which seem to fluctuate with the jaundice. There is no history of abdominal pain, dark urine or pruritus, and the physical examination reveals no enlargement of the liver or spleen or other evidences of chronic hepatic disease or obstruction of the biliary passages. Except for the increased concentration of serum bilirubin, laboratory studies give entirely negative results, including studies for anemia, roentgen examination of the gallbladder and all liver function tests. This is an entirely benign condition, and the patient can be given complete reassurance with regard to it. Although constitutional hepatic dysfunction is not a common condition, its recognition is important since it may avoid much useless or dangerous therapy. Patients with this trouble have not infrequently been confined to bed for long periods because of the supposed presence of hepatitis. Others have been subjected to needless abdominal exploration.

OBSTRUCTIVE VERSUS HEPATOCELLULAR DISEASE. — From the practical standpoint, the most important problem in the diagnosis of jaundice is the differentiation of obstructive from hepatocellular disease. Obstructive disease is often amenable to surgical therapy, either curative or at least palliative. Patients with hepatocellular disease, on the other hand, are not benefited by surgical measures and tolerate them poorly, the risk of operation being high. The necessity of early accurate differentiation between the two types of jaundice is therefore obvious.

Hepatocellular jaundice is due to involvement of the cells of the liver by some diffuse disease process — inflammatory, degenerative or toxic in nature. Various etiologic agents may be responsible, such as viruses, chemicals, drugs, alcohol and dietary deficiencies. Acute hepatocellular jaundice is most commonly seen as infectious hepatitis, or homologous serum hepatitis, whereas the chronic form of the disease is represented by the various types of cirrhosis. Pain is seldom an important feature, though in rare instances it may be present and confusing in the diagnosis. The bile ducts are patent in hepatocellular jaundice, and usually evidence can be obtained to show that bile enters the duodenum. In some instances of acute severe parenchymatous disease of the liver, there is temporary complete suppression of the flow of bile, which seldom lasts longer than a few days. Evidence of disturbance of the metabolic functions of the liver may be found early in the course of hepatocellular disease, frequently even before the appearance of jaundice.

Obstructive jaundice is most often due to stones, strictures or neoplasms. Serious disturbances of the metabolic function of the liver usually are absent in the early stages. Pain is a much more common and prominent feature in the clinical course of patients with this type of jaundice than in those with hepatocellular disease, and oftentimes the diagnosis may hinge upon the evaluation and interpretation of the history of pain.

History

In any patient with icterus an accurate, detailed, chronologic account of symptoms both preceding and following the onset of jaundice is most important and helpful, and the physician should make every attempt to obtain complete information from the patient, his relatives and previous medical attendants.

PAIN. — Attacks of pain, especially if they are associated with episodes of jaundice, chills or fever, are of particular significance. Almost all patients with jaundice from a stone in the common duct have had some severe pain at one time or another, and a good history of colic in a patient with jaundice is practically diagnostic of

his disease. Even when one is dealing with patients who have what seems to be painless jaundice, it is wise to inquire as to a past history of abdominal pain which could possibly have been biliary colic and which may have occurred weeks, months or even years previously.

The tendency of some patients to exaggerate symptoms and of others to minimize or forget them may make it difficult to assess the severity of pain and to determine whether true biliary colic has occurred. The difficulty of interpretation of pain is increased by the fact that biliary colic may be atypical in location and character in some 20 per cent of the cases of stone in the common duct. Further difficulty arises from the fact that other conditions may simulate the pain of a stone at this site. At the onset of jaundice due to a malignant lesion, pain is present in about 60 per cent of patients and is severe or colicky in less than half of these. In the other 40 per cent the disease runs a painless course. When pain from a malignant disease is present, it is apt to be constant and boring in character and is not usually confused with the severe episodic pain of biliary colic due to stone. The pain of chronic relapsing pancreatitis may simulate that of stone in the common duct exactly, but can often be distinguished from the fact that it tends to persist for many hours or even days at a time and may require repeated hypodermic injections of narcotics for relief, whereas the severe pain from stone in the common duct lasts only a matter of a few hours and is usually relieved by one hypodermic injection. Severe pain occurring during the course of hepatocellular jaundice such as that associated with hepatitis or cirrhosis presents a most difficult diagnostic problem, and fortunately is rare.

Postoperative Jaundice. — In patients who have had previous operations on the biliary tract, detailed information should be sought concerning the preoperative symptoms, the surgical findings and procedure, and the postoperative course. If stones were once present in the biliary system, they must be seriously considered as a cause of subsequent or persistent jaundice. Their presence will usually be marked by the occurrence of colic associated with chills, fever, sweats and increase of jaundice. A persistent discharge of bile from a postoperative fistula denotes the presence of some degree of obstruction of the common duct. Following cholecystectomy, such a biliary fistula is apt to be due to the presence of an overlooked stone in the duct or to inadvertent operative trauma with formation of a stricture of the common duct.

Symptoms of stricture almost always begin within the immediate postoperative period. Typically, patients in whom this disease develops were not jaundiced before cholecystectomy, but during a stormy postoperative course there develops a deep and persistent jaundice or else a biliary fistula which may close intermittently in association with pain, fever, chills, and deepening of the jaundice. Sometimes the symptoms of stricture will subside temporarily only to recur at intervals.

Painless Jaundice. — In taking a history from patients with painless jaundice, one should attempt to obtain information concerning the following points: (1) exposure to infectious hepatitis, (2) recent history of symptoms suggesting an infection of the respiratory or the gastrointestinal tract (premonitory symptoms of infectious hepatitis), (3) recent parenteral therapy, particularly injections of blood or plasma, (4) ingestion of medicines or exposure to other toxic substances that might cause injury of the liver (alcohol, carbon tetrachloride, methyl testosterone and so forth) and (5) previous removal of a malignant tumor.

Infectious hepatitis, though it occurs in epidemic form, is frequently sporadic and may attack persons in any age group. The diagnosis is relatively more difficult in middle-aged and elderly patients because of the more frequent occurrence of other types of jaundice during these years, and also because the onset and course of the disease in this age group are often atypical. A history of premonitory or accompanying symptoms such as an infection of the upper part of the respiratory tract, fever, malaise, anorexia, nausea, and vomiting is of distinct help in the diagnosis, but can be misleading because of the occasional occurrence of similar symptoms in the course of other diseases. Shaking chills are uncommon in infectious hepatitis, a fact which helps to distinguish it from stone in the common duct, stricture and other causes of obstructive jaundice.

Homologous serum hepatitis has become much more common within the last two decades because of the increasing use of blood, plasma, and blood products. Not uncommonly this disease occurs during the course of other illnesses and may cause considerable difficulty in diagnosis for this reason.

It is important to remember that jaundice does not appear until six weeks to six months after the injection of infected serum. Jaundice that has its onset before or after this range of time is not likely to be due to homologous serum hepatitis. It is equally important to remember that jaundice appearing during this period after the administration of blood or plasma must be considered as serum hepatitis until proved otherwise.

Mild jaundice is a fairly common symptom of portal cirrhosis, but usually there is other evidence which leads to the correct diagnosis, such as a history of excessive ingestion of alcohol, hematemesis or ascites. Usually the jaundice associated with portal cirrhosis is of mild or moderate intensity, and deep jaundice in this disease has a serious prognostic significance. Malignant tumors that metastasize to the liver may cause jaundice, but usually they do not unless the tumor in the liver is most extensive or unless it causes obstruction of the major bile ducts in the region of the hilus.

The symptom of pruritus does not distinguish between hepatocellular and obstructive jaundice though severe degrees of it are much more common in association with obstruction. Mild pruritus is fairly common with both types of jaundice, and severe itching may occur in cirrhosis of various kinds, particularly primary biliary cirrhosis.

Among patients with painless jaundice the passage of light or clay-colored stools has often been thought to indicate the presence of an obstructive type of jaundice. As a matter of fact, light-colored stools have no such significance, since they will be found almost universally among patients with hepatitis and other forms of hepatocellular jaundice as well as among those with obstruction. Duodenal intubation has demonstrated repeatedly that large quantities of bile may be entering the gastrointestinal tract at a time when the patient is having clay-colored stools.

BILIARY OBSTRUCTION. — The demonstration of complete and persistent obstruction to the flow of bile is of considerable diagnostic importance because such a finding is characteristically due to carcinoma of the head of the pancreas, or common bile duct. Such complete obstruction is proved to exist when no bile is obtained by repeated duodenal intubation or by careful quantitative studies of the feces for urobilinogen. Hepatocellular disease rarely suppresses the flow of bile completely for more than a few days at a time, though it may do so temporarily in the early stages of the jaundice. Thus the demonstration of persistent failure of bile to enter the duodenum may be of great importance in diagnosing carcinomatous obstruction. Partial obstruction of the common bile duct (which is characteristic of common duct stone or stricture) cannot be diagnosed by these means, since some diminution of the flow of bile is also to be expected in hepatocellular disease. Intubation studies may give help in the diagnosis of jaundice if gross blood is aspirated from the duodenum, a finding which is not unusual in the presence of carcinoma of the ampulla or papilla of Vater. A history of melena in the course of jaundice has the same significance unless the patient has a pronounced bleeding tendency from severe hepatic disease or profound deficiency of prothrombin.

Physical Examination

The physical examination may give information of great diagnostic significance, or it may be of little or no help. The following are some signs worth looking for and noting: (1) depth of jaundice, (2) size and consistency of the liver, (3) splenomegaly, (4) palpable distended gallbladder, (5) tumors elsewhere in the body (especially in the region of the pancreas, supraclavicular lymph nodes and rectal shelf), (6) spider angiomata, (7) collateral venus circulation on the abdominal wall, (8) edema or ascites and (9) fetor hepaticus.

Although all degrees of jaundice may occur in both hepatocellular and obstructive disease, mild jaundice is rarely due to carcinomatous obstruction to the bile passages, which characteristically causes deep and progressive jaundice.

The degree of hepatic enlargement also does not differentiate between the two kinds of jaundice, since a liver extending down to the umbilicus and even below may represent enlargement due to obstruction of the bile ducts or to cirrhosis. An extremely large liver extending well into the lower quadrant of the abdomen is almost always the site of a malignant process. Metastatic carcinoma of the liver usually produces a coarsely nodular liver, and the hard, finely nodular liver of advanced portal cirrhosis has a characteristic feel. Splenomegaly when not associated with hemolytic jaundice is indicative of hepatocellular disease, though rarely it may be found in cases of long-standing

obstruction such as from stone or stricture of the common duct.

A palpable distended gallbladder in the absence of symptoms and signs of acute cholecystitis (that is, in the absence of hydrops of the gallbladder) is one of the most diagnostic of all physical signs and denotes the presence of a neoplastic obstruction of the common bile duct below the junction with the cystic duct. It can be demonstrated clinically in about 60 per cent of cases in which there is such obstruction. It is important to make a particular search for this sign, and sometimes it will be found only after repeated examination of the patient.

Spider angiomata may almost be called the trademark of cirrhosis and as such they are well worth looking for. They also may be found in acute hepatitis, sometimes appearing with great suddenness. Except for their occurrence in pregnant women and in a few otherwise normal persons, vascular spiders are indicative of parenchymatous disease of the liver or more rarely of long-standing obstruction. They can be found in the distribution of the superior vena cava, that is, on the face, neck, shoulders, upper extremities and upper part of the trunk. They may vary in size, but their pulsating central point and the spidery appearance of the surrounding net of small blood vessels serve to identify them. They should not be confused with cherry angiomata which almost all of us seem to acquire when we get past 40 years of age.

The finding of definite evidence of collateral venous circulation in the abdominal wall of a jaundiced patient is almost diagnostic of cirrhosis of the liver.

Brief comment may also be made concerning two other physical findings: the presence of edema and fetor hepaticus. In the patient acutely ill with recent jaundice the presence of edema points to serious injury to the parenchyma of the liver. Edema is not common in obstructive jaundice. Frequently, pitting edema of the sacrum, ankles and face precedes the development of hepatic coma in the presence of acute or subacute atrophy of the liver. Edema developing after a long period of jaundice is of less significance than that appearing early. Fetor hepaticus is a distinct sweet amine odor that is frequently noted on the breath of patients with hepatic disease. Its presence is apparently not always of serious prognostic significance, and it may be found in some patients with obstructive jaundice.

Summary

The fundamental role of a detailed history and a carefully performed physical examination in the differential diagnosis of diseases associated with jaundice is stressed. It is pointed out that familiarity with the natural history and possible variations of the commoner diseases that cause jaundice is of primary importance. Some special diagnostic points relating to the history and physical examination are discussed.

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Symposium on the Differential Diagnosis of Diseases Associated with Jaundice: II. Role of Liver Function Tests and General Laboratory Findings

JAMES L. BORLAND, M.D.
JACKSONVILLE

In this symposium, we come now to a consideration of the value of laboratory tests in the differential diagnosis of jaundice. It is the purpose of this discussion to outline in a general way the philosophy involved in the use of those tests called "liver function tests" rather than to attempt a complete discussion of all the laboratory examinations which may be brought to bear in the differentiation of jaundice. Of this group, only a few of the biochemical methods available to measure the liver function meet the requirements of suitability for the ordinary laboratory.

In any diagnostic situation the laboratory tests must be interpreted in the light of the clinical picture. The diagnosis depends upon the natural history of the disease as it develops in the patient; the laboratory tests merely serve as a check upon the reasoning of the physician. Thus in a given case, from the history and his observation of the patient, the physician must postulate the probable nature, duration and severity of the process, the reaction of the patient to his disease, and the presence or absence of other diseases or conditions. He then may predict that certain substances are increased or decreased in concentration or that there is an alteration in the function of certain cells. The results obtained from properly selected tests, which disclose these changes in concentration or cell activity, strengthen or weaken the physician's conclusions. Laboratory tests are meant to be guideposts to the clinical logician and, as such, are invaluable; but used alone or blindly as "liver function tests," they are likely to appear inconsistent and unreliable.

In order intelligently to select and interpret the results of any test of liver function the physician must bear in mind that disease patterns overlap, that the manifestations of the single pathologic process are a summation of various physiologic alterations, that conditions other than those of the liver affect the results, and that even though a single substance is being measured, the level in the tissues may be a summation of several factors. A test may give positive results in the same patient at different times for different reasons. A schematic outline is presented in figure 1, and a discussion of these individual points in detail follows:

A. The pathologic physiology of the disease may be complex. There are a few instances in which the jaundice is the result of a simple derangement of a single integer in the system of blood destruction and excretion. This is essentially true at the onset of many diseases producing jaundice, but in nearly all, with the passage of variable periods of time, multiple components of the system are affected, some stimulated, some inhibited; so the results of the process are an algebraic sum of these components. For example, it is evident from the onset of hepatitis that two factors must be considered: (1) a simple inhibition of the parenchymal cell due to toxic processes within the cell, and (2) a specific involvement of the mucous membrane of the upper part of the alimentary tract, particularly the duodenum.[1,2] It would seem reasonable to assume that this involvement also extends into the biliary tree.[3] The effect, in this case, is to have both "parenchymal liver cell disease" and "obstructive jaundice." The relative proportions of these two effects vary apparently from epidemic to epidemic, from strain to strain, from individual to individual, and at different times in the same person. It is also evident in diseases resulting in jaundice that there are many which disturb organs affecting the liver

Read before the Florida Medical Association, Eightieth Annual Meeting, Hollywood, April 27, 1954.

cell, notably the endocrine glands. Severe illness as such may affect the liver cell in this way. Even the affection of the parenchymal cell damage may become complicated in this disease. When the function of the liver cell, particularly in the periphery and periportal area, becomes stimulated rather than depressed, there is an overproduction of substances such as alkaline phosphatase, the production of which may be inhibited in other portions of the same organ. There is some evidence that the location of the cell in the lobule may have some relation to its function.

Fig. 1. — Factors in the Application of Tests

A. Pathologic physiology of the disease becomes complex
B. The basic mechanism of the test may be simple, but the result is complicated by
  1. Disease of tissues other than the liver affects substance or reaction measured
    a. Substance measured may come from tissues other than those directly involved in jaundice, as alkaline phosphatase (bone, pancreas), globulin, lipids
    b. Substance measured is complex, as mucoprotein, globulin plus lipids
    c. Level of substance in blood serum affected by multiple mechanisms
      (1) Elaboration in liver cell may vary in various locations in the liver
      (2) Regurgitation into blood
      (3) Elaboration by more distant organs
      (4) Stimulus to produce substance may be from disease other than that producing jaundice
      (5) Unknown substances produced by disease process may accelerate or inhibit reactions
  2. Various functions of the liver are affected independently of each other
C. Multiple factors affect the technical performance of tests

As a further example of the effects of multiple organ involvement, in jaundice resulting from a process which also obstructs the pancreatic duct, such as in carcinoma of the head of the pancreas, in addition to the effect upon the liver of the obstruction to the excretion of bile products, the tests reveal certain effects due to the occlusion of the pancreatic ducts as such. For instance, the metabolism of glucose is likely to be affected, both through the affection of the pancreas and of the liver. The alkaline phosphatase production is affected by both organs. Both secrete the substance through their external ducts with possible regurgitation if blocked. In addition, the production of the alkaline phosphatase in the liver is affected by the pericholangitis produced in the liver by the block in the pancreatic duct as well as by the effect of the block in the biliary tree.

A number of complex diagnostic situations reflecting these effects are illustrated in figure 2. It is evident from this outline that multiple processes will be involved in these cases with multiple effects. The effects will be an algebraic sum.

Fig. 2. — Complex Diagnostic Situations in Which Tests Are Valuable

A. Cases In Which the Diagnosis is Known
  1. In hemolytic icterus — between episodes of hemolytic activity and
    a. Onset of hepatitis
    b. Common duct stone
    c. Cholangitis or cholangiolitic process
  2. In cirrhosis — as in a,b,c
  3. Extrahepatic obstruction — with onset of liver damage
  4. In hepatitis — between simple prolonged convalescence and chronic hepatitis or chronic cholangiolitis
B. Cases In Which the Diagnosis is Unknown
  1. In sudden severe illness
    a. Between hepatitis and obstruction with cholangitis
    b. Between a and cirrhosis in an acute phase
  2. In slow onset of painless icterus
    a. Hepatitis versus cirrhosis (particularly in older persons) versus obstruction

B. The analysis of jaundice by laboratory measures becomes still further complicated when it is realized that diseases or conditions in the body other than those directly involved in the production of the icterus may affect the liver, the products of the liver, and products similar to those produced by the liver. For instance, fever is known to affect the liver function tests. Apparently in certain cases this effect occurs because the liver itself appears to be adversely affected by high temperature. Disease processes such as malignancy or inflammatory reactions, whether in the liver or in more distant organs, may affect both the carbohydrate and protein components of the mucoprotein compound. The phosphatase reactions may be affected by bone lesions, for example. A blood cholesterol level may be affected by such factors as familial tendencies, diet, and other considerations.

In selecting the test upon which to base a judgment in any given diagnostic situation, one must further take into consideration the degree of sensitivity of the test, the functions expected to be present, the basic mechanism of the test, and the technical factors affecting the test (a moist climate interferes with hippuric acid determination; the temperature at which material is collected affects some of the turbidity and floc-

culation reactions). The familiarity of the individual laboratory with the test is of importance. Since the test must be integrated with the physician's clinical appraisal, it is better to become familiar with a few tests than to take up each variation. That this course is of great importance is illustrated in figure 3. This figure indicates that an absolute norm in the thymol turbidity is possibly unattainable, and in my experience this observation applies to other tests as well. It is imperative that the laboratory performing the test be familiar with it, be experienced in performing it and have previously established the relative norm for itself, since this varies with the individual laboratory. Because of this technical variation, when given a choice of two possible methods, the physician should encourage the ordinary laboratory to use the grosser when the error is not enhanced. It is better, that is, to become familiar with the oral hippuric acid excretion test rather than the intravenous technic since the errors in the former tend to be dissipated in the mass.

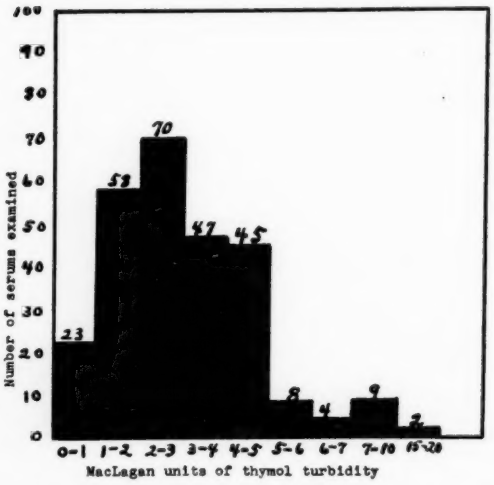

Fig. 3.— The results of thymol turbidity reactions on 266 presumably normal blood bank donors.

A convenient grouping of some of the tests commonly used to measure the complex variation of hepatic disease, as shown in figure 4, is:

A. Tests measuring the destruction of blood or the effects of products of blood destruction on various organs or the response of the body in general to these products are:

1. Examination of blood smears for regenerative activity
2. The various tests for lytic agents
3. Examination for bile in the urine, blood and stool
4. Examination for urobilinogen in the urine and stool

B. Tests measuring the reabsorption or regurgitation into the systemic circulation of the several fractions which are contained in bile include:

1. For urobilinogen in the urine and stool
2. For bile in the urine and stool
3. For Bromsulphalein excretion
4. For alkaline phosphatase
5. Van den Bergh test (1 minute)

C. Tests measuring the ability of the liver parenchymal cell to perform a given task at a give time include:

1. Observation of the results of carbohydrate metabolism, the glucose, galactose and fructose tolerance tests
2. Measurements of fat digestion, such as the formation of cholesterol esters, measurement of production of phospholipids, vitamin A tolerance
3. Tests of protein metabolism, such as the serum albumin concentration and the prothrombin time and its response to vitamin K
4. Measurement of the detoxifying function, such as the hippuric acid excretion test
5. Tests of the ability to excrete substances, such as bilirubin,[4] Bromsulphalein and urobilinogen in stool and urine

D. Tests which measure substances or combinations of substances appearing in response to pathologic processes or altered physiologic mechanisms not clearly or directly related to the destruction of blood, disturbances of the parenchymal cell or regurgitation of products include:

1. Alkaline phosphatase test
2. Total cholesterol test
3. Various tests revealing changes in the blood proteins and the relationship of these proteins to lipids (that is, the turbidity and flocculation tests)

It is to be noted particularly that many tests fall into more than one category, not because of an artificial division but because of an inherent complexity of the test, as the ensuing discussion will show. In the tests in groups A and B (fig. 4) there are several considerations that should be emphasized each time they are discussed:

1. The variability of the bilirubin in the blood is often used as a differential point between obstructive and other types of jaundice. The height and the manner or degree of increase or decrease, however, serve in only a limited way as a differential point in the diagnosis. It is common knowledge that a stone may act as a ball valve with fluctuation in the level and that edema in a duct which is obstructed by carcinoma may subside with equivalent drop in icterus. One of my cases illustrates the height to which the icterus in infectious hepatitis may rise. It is noteworthy in this case that at the time the icterus index was 410 units, the patient was walking around and feeling well. An exploratory laparotomy was performed because of the height of the jaundice. It was decided that the steady rise of serum bilirubin to this height implied an obstructive process. At operation, inspection and biopsy established the presence of hepatitis with evidence of extrahepatic obstruction.

2. The van den Bergh test, particularly the quantitative measure described by Watson,[5] gives extremely valuable information in that it tells whether or not the bilirubin in the blood has been passed through the liver cell. Unfortunately, it is of no value except in early jaundice. In late jaundice, no matter what the cause, a large proportion of the bilirubin has passed the liver and been reabsorbed. Further there is some doubt as to the nature of the differences between direct and indirect fractions.[6] The chief usefulness of this test probably is in differentiating mild hemolytic icterus from other types.[5]

3. The presence of bile and urobilinogen in the stool is extremely valuable when reliance may be placed on the tests. In my experience, however, these tests have not been satisfactory. I am unable to detect with certainty the color changes necessary to determine the presence of bile in the stool by the usual chemical tests and have decided that few technicians can do so. The same difficulty applies to the determination of urobilinogen in the stool.

4. Bile in the urine is of diagnostic value in early jaundice or in mild degrees of the disease. It is useful chiefly in detecting hemolytic processes. Its presence without measurable icterus in the blood serves as a distinguishing mark in diagnosing hepatitis in its early stages. The new tablet test has aided in the ease of performances.

5. The variability of lytic agents in the blood is well known and for the sake of brevity will not be discussed here.

Some of the tests in group B indirectly and incompletely measure the actual function of the liver cell. With this exception, the only tests actually devoted to the measurement of a single function of the liver cell at a given time are those in group C. These are the only ones, therefore, that could be properly called "liver function tests."

Fig. 4. — Tests Classified by Basic Function In Order of Sensitivity Within Group

A. Those measuring products of blood destruction or body response to these products

Antibodies	
Lysins	
Blood cell characteristics	
Bilirubin (blood, urine)	
Van den Bergh test	Urobilinogen* (stool, urine)

B. Those measuring reabsorption or regurgitation of excretions into bile

Van den Bergh	
Bromsulphalein	
Urobilinogen in urine	
Alkaline phosphatase	

C. Tests measuring ability of parenchymal cell to perform a given task

Excretory function	Bromsulphalein	Bilirubin excretion*†
Detoxification		Hippuric acid*†
Protein	Prothrombin time (vitamin K)†	
Fat	Cholesterol	
		Cholesterol esters*†
	Phospholipid	
Carbohydrate	Glucose	
	Fructose	Galactose*†

D. Tests measuring substances present in liver disease not clearly related to A, B and C

Cephalin cholesterol	Zinc sulfate flocculation*
Thymol turbidity	
Thymol flocculation	
Mucoprotein	

*Simple mechanism or single substance.
†Substance or mechanism controlled in liver and biliary tree.

The tests in group C by and large are reliable when performed in the average laboratory, provided they are performed frequently enough and due consideration is given the methods of collection of the material tested. As indicated in figure 4 the tests vary in "sensitivity." This difference is in part caused by variations in the range of normal value and in part caused by the variations

in the ease with which the parenchymal cell performs the individual task. For instance, it seems to handle sugars with greater ease than protein.

In selecting these tests, therefore, the physician must judge the severity of the process. To illustrate, the galactose tolerance test will give negative results in all cases of mild parenchymal disease, but would be of great value in differentiating severe hepatitis from infective cholangitis.

It may be helpful to discuss in more detail a few of the tests in order to illustrate the number of factors influencing the results of the tests and to point up the assertion that the result of the test is actually an algebraic sum, and the value of its components must be determined before the actual value of the test has any meaning.

Alkaline Phosphatase Level

1. Knowledge of the value of the serum level of alkaline phosphatase in the diagnosis of jaundice resulted from the observation that it was found to be elevated in cases of obstructive jaundice and normal in those of parenchymatous jaundice. The degree of its elevation still provides one of the few "absolutes" in disease of the liver, namely, any elevation above 30 K.A.U. signifies obstruction to the biliary tree. In this connection "biliary" types of cirrhosis produce extremely high levels, and a review of cases in the literature would indicate doubt that, if the level of alkaline phosphatase is below 30 K.A.U., these diagnoses should be made. Likewise, it is rapidly elevated in response to minimal degrees of obstruction and thus is of value.[7] Originally, the elevation of alkaline phosphatase in obstructive jaundice was regarded as regurgitation. Some doubt exists as to whether regurgitation occurs at all. Even if it does, it is evident that it is far from being a controlling factor in the serum level. Certain considerations are: [8-13]

a. That the alkaline phosphatase in the bile and pancreatic juice is not from the serum, but is actually produced by the liver and pancreas and the cells lining the ducts.

b. That the normally functioning liver cell does not remove alkaline phosphatase from the serum.

c. That there is frequent dissociation of the serum bilirubin and the phosphatase, particularly in biliary fistula and in infantile atresia of bile ducts.

d. Regenerating areas in the liver seem to produce more alkaline phosphatase.

2. Cases of jaundice resulting from parenchymatous disease alone were soon noted in which the alkaline phosphatase was elevated, though not in the degree of 30 K.A.U., and also cases of obstruction in the biliary tree with a normal alkaline phosphatase.

A consideration of the factors involved places the result as an algebraic sum and indicates that the exceptions are no less valuable than the rule and serve to illustrate most of the points discussed:

a. Multiple origins. The enzyme is present in most tissues and tends to be elevated in many diseases and conditions not involving the liver, even secondarily, such as bone lesions.

b. Variability in the site of production within the liver. Apparently in the absence of effects external to the liver, the serum level is maintained by the liver cells. It is evident that in the main the greatest area of production in the liver is in the region of the bile canaliculi, and anything which stimulates the cells in this area is likely to result in a greater level of enzyme in the serum than stimulation of cells elsewhere in the lobule. [9, 13, 14] Stimulation may be offset by destruction or impairment of the cell function. A sampling of the cases published in the literature suggests that the highest and most consistently positive findings of elevated alkaline phosphatase occur in those cases of cholangiolitic jaundice in which there is xanthomatosis, in the cholestatic cases or those cases of cholangiolitis in which the main ducts are chiefly involved. In these cases there may be both "regurgitation" and "stimulation."

c. Multiple influences on its production by the liver cells. These are other than from the stimulus of liver cell necrosis. Of itself, this does not result in elevation. Stimulus to the cells to produce the enzyme may occur in the same patient for two different reasons, supplementing each other if present at the same time, or maintaining the same serum level at different times in the same disease; or stimulus to some cells and depression of others may "cancel out" and result in a normal serum level. It is known that when the pancreatic duct is obstructed, a pericholangitis develops with a resultant rise in alkaline phosphatase even in the absence of jaundice.[15] This has been observed in the dog with a subsequent decline and a secondary rise at the time a fatty infiltration of the liver occurred,[16] and it has been sugggested that this fatty infiltration may "simulate a moderate biliary obstruction."[17]

In the case in figure 5, the early rise and subsequent fall of alkaline phosphatase, therefore, is comparable to that occurring in the experimental animal whose pancreatic duct has been occluded.

Fig. 5.—Case Illustrating Multiple Influence on Tests

Mr. K. K.
Diagnosis: Carcinoma of head of pancreas

Weeks:	1	2	4	6
Cephalin flocculation (24 hrs.)	1+	1+	0	0
Cephalin flocculation (48 hrs.)	1+	1+	0	0
Thymol turbidity			5.5	5.5
Thymol flocculation			0	0
Alkalin phophatase	35.0	24.8	12.2	0
Icterus index		144	159	149
Total bilirubin	7.8	11.8		

The serum level of alkaline phosphatase, therefore, is the algebraic sum of many influences which require both clinical observation and other tests to evaluate at moderate levels. Taken alone as a measure of "parenchymatous disease" or "obstruction," it has little meaning.

If these points are borne in mind, however, it is valuable in that it is capable of indicating stimulation as well as depression of the liver cells, it is capable of distinguishing areas of stimulation in the liver, it provides "absolutes" when extremely high, and it is technically reliable.[18]

Turbidity and Flocculation Reactions

The changes in the chemistry of the proteins are the most constant concomitant of any type of hepatic disease. This, however, is complicated in the application of the tests to the function of the liver by an incomplete knowledge as to the exact source and chemistry of the various types of proteins and in inadequate practical methods for the measurement of each. The liver is apparently involved in the origin and regulation of both albumin and globulin fractions. Whether it is the sole source or the sole control of the albumin is unknown. There is certainly evidence that some of the globulins at least are compounded elsewhere.[19] It is evident that the serum levels of these substances are subject to multiple controls. It is beyond doubt that variations in both albumin and globulin fractions occur as a result of disease processes not ordinarily regarded as directly related to disease in the biliary tree or excessive blood destruction. In the main, in damage to the liver cell there is an inability to maintain serum albumin and a stimulus to produce globulin. At least in the latter phase, however, the type of globulin produced appears to vary with the type of disease process,[20] the strain of the infecting organism, the immune processes, the duration, the transport of fat, and other variables. In the tests based on these proteins, the level of substances measured will be an algebraic sum of the stimulus of the cells to produce these proteins and depression of their ability to do so.

The exact chemistry of the precipitant formed in the turbidity and flocculation reactions has been determined only to a limited degree. The protein involved in most of these is some type of globulin. Increases in alpha globulin are not reflected directly in any of the complexes except that of the mucoprotein. In the main, the tests are a measure of the gamma globulin in its relationship to other proteins and lipids, but various complexes involving beta globulin also precipitate. The precipitate and precipitant in the majority of the cases is known. What is not known is the number of the other types of precipitates that may be formed by variable types of globulin, particularly as related to fats and what precipitant may affect these. In the various tests of this type in common use today, the precipitate results from an interrelationship between gamma globulin and albumin; one may take the basic mechanism of the test and add to it gamma globulin and a precipitate is formed at a constant concentration. Likewise, normal human serum albumin may be added to this and be found to prevent quantitatively the development of the reaction. Thus, the precipitant is not solely dependent on the absolute quantitative level of the globulin, but also on its concentration relative to the albumin which is keeping it in the solution. In addition, there are probably other compounds which tend to have this effect. This simple relationship seems to be true in all tests of this type in common use today, and it is said that the zinc sulfate solution remains this simple and can act as a measure of gamma globulin alone. Certainly the thymol and cephalin precipitates may be affected by accumulation of immune globulin and are known to be precipitated by certain concentrations of beta globulin, either as part of an infectious or cirrhotic response, or in its capacity in the transport of fat.

In disease, it is known that there are qualitative changes as well as quantitative changes in the albumin and globulin fractions. For instance, in hepatitis the gamma globulin is either modified or there is some other substance present, which tends to induce precipitation at a lower concen-

tration in relation to normal serum albumin than would otherwise occur.[21-26] Likewise, the serum albumin obtained from patients with obstruction in the biliary tree contains some substance which tends to inhibit the precipitation of the flocculation portion of the reaction at a concentration other than that at which it would normally occur (fig. 6). It is evident, for instance, in the thymol reaction that the factors mentioned do not affect the development of the turbidity precipitation in the same degree as the flocculation, and that in this reaction there are two possible precipitates, subject to different control.

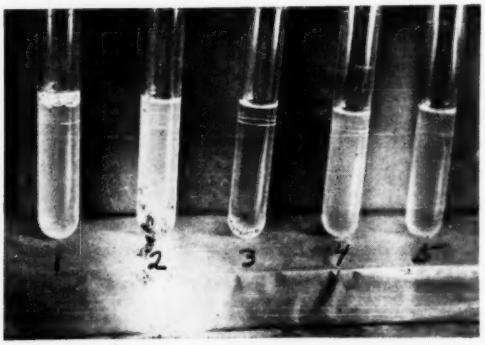

Fig. 6.— Showing the inhibition exerted by the serum of a patient with an obstructive jaundice toward the development of a positive thymol flocculation reaction in the serum of a patient with infectious hepatitis. The photograph was taken 60 hours after a standard thymol turbidity and the 18 hour flocculation tests were run on samples of serums mixed as follows: 1. Serum of hepatitis patient (A) with strong thymol reactions plus an equal amount of serum from a normal male (B). 2. Serum of patient (A) plus an equal amount of serum of a patient with obstructive jaundice (C) (Mr. K. K.). 3. Serum of patient (A). 4. Serum of patient (C). 5. Serum of patient (C) plus an equal amount of serum of a normal male (B).

In these reactions, therefore, there are multiple chemical forces tending to form a precipitate, and multiple forces tending to keep the precipitate in solution. Whether the reaction to the test is positive or negative is the result of an algebraic sum of these forces. This fact is commonly appreciated when the test gives positive results, but what is not so widely understood is that negativity may be dynamic rather than passive, and that all factors may vary in the same person from time to time, although the actual algebraic sum may be the same. In evaluating these particular reactions, therefore, one must know roughly the type of disease, its duration, its severity, whether or not it is accompanied by fever, whether the person is ill or convalescing. In addition, there is some reason to believe that in the virus-producing infectious hepatitis there is some variation in reaction from strain to strain and it is probably necessary also that some estimate be made of the type of strain in these cases. Despite the complexity, however, a proper estimate of the probable factors involved may be made and the use of these multiple reactions becomes one of the most valuable and significant guides in medicine. To illustrate, take the case of Mr. K. K. (fig. 5), in whom jaundice developed from the effects of carcinoma of the head of the pancreas. The flocculation reactions were negative; the thymol turbidity was normal. In this case then, the serum of this patient was placed against that of a patient having an infectious hepatitis with a strong flocculation reaction (fig. 6) and the flocculation reactions resulting from the thymol reagins actually were inhibited. The reactions were not negative because of simple lack of stimulation, but inhibitory substances were present in the serum of the patient in sufficient degree to prevent the development of these reactions.

The various turbidity and flocculation tests, therefore, are not tests of the function of the liver cell but measures of the mesenchymal reaction to certain disease processes.[27] That these disease processes involve damage to the liver cells appears to be secondary. The chief value of these tests lies in indicating types of disease processes present and indicating tissue reactions that may affect other tests. Thus they are invaluable to the logician in his clinical analysis of the patient. They are particularly sensitive indicators of these reactions. Also, they are simple to run, although exact norms are difficult to establish and variations in temperature and hydrogen ion concentration are likely to produce serious errors.

Mucoprotein[27-32]

The serum mucoprotein is a glycoprotein complex. It may be separated from the albumin and other globulins. Electrophoretic evidence indicates that the isolated mucoprotein resembles the alpha (1) globulin in serum. Its complete structure is not yet fully determined. The estimation of either the protein or glycogen component may serve as a measure for the whole.

The changes in the mucoproteins appear to be independent of the abnormality revealed by serum bilirubin, thymol turbidity, zinc sulfate, alkaline phosphatase, prothrombin time, and Bromsulphalein. There is evidence that the mucoproteins are multiple and that the multiplicity results from varying sources, functions and chemical potentials. It is known that some of them

are pathologico-physiologic, being produced from the connective tissue matrix at the margins of inflammatory lesions, new growths, and other injuries. In the normal person the level of the conglomerate mucoprotein is a constant within definite limits. The liver appears to be sufficiently concerned in this homeostasis that affections of that organ produce detectable variations in the serum level. In general the effect on the serum level is the result of stimulation or depression of the production of this particular component by the liver cell.

The mucoprotein appears to be rather consistently but not inevitably lowered in parenchymatous disease. It seems to correlate roughly with the severity, and is thus lower in cirrhosis than in hepatitis, although experience has not been sufficient to determine whether the degree of either the elevation or the suppression is of significance. Alpha globulin electrophoretically does not appear to be lowered in these two conditions. Technical difficulties, however, mask the true alpha globulin as determined by electrophoresis. That the alpha globulins are lowered is indicated not only by the drop in the mucoprotein but also by the reported absence of polysaccharide c-reactive protein in these conditions, the latter being a known component of the alpha globulin complex. It has been observed that occasionally the alpha globulin tends to become elevated in hepatitis which is becoming chronic. The alpha (2) globulin has been noted to be increased in a case of Weil's disease and in other febrile infections.[19] There is some evidence that the relationship of the polysaccharide content to the protein content in the mucoprotein complex is of significance.

The mucoprotein level in the serum as well as its composition, therefore, seems to be the result of both intrahepatic and extrahepatic processes. The ordinary tests performed grossly do not subdivide the mucoprotein complex or indicate its sources.

The mucoprotein test is another in which extrahepatic complications may override the changes resulting from depression of the liver cell function and result in a normal or elevated mucoprotein in these situations in which a lowered one might be found.

As a tool for diagnosis, therefore, these tests have certain values:

1. Mucoprotein is produced by the liver cell in normal states in sufficient quantity with sufficient degree of homeostasis to maintain a more or less constant level in the blood.

2. This level rises with stimulation of hepatic parenchymal cells and falls when the function is depressed.

3. For the ordinary laboratory it is the only practical test which can serve as even a crude measure of the alpha globulin.

Bromsulphalein Excretion Test

The Bromsulphalein excretion test is one of the tests which reflects minor degrees of impairment of the liver cell. The polygonal cell of the liver is chiefly responsible for the removal of Bromsulphalein from the blood stream.[33, 34] This test has been chosen for discussion because it illustrates the multiplicity of factors to be weighed in its interpretation.

I. Bromsulphalein is not handled solely by the liver. There is evidence that tissues outside of the liver may remove it. It has been shown that in the hepatized, eviscerated and nephrectomized dogs, 50 per cent of the dye disappears in one hour from the circulating blood.[35] This factor probably plays only a minor role unless the liver is damaged. Thus the clinician in evaluating the results of the test must estimate the degree of damage to the liver in order to decide whether the rate of removal being measured is a function largely of the liver or of other tissues.

II. The mechanisms within the liver responsible for the handling of Bromsulphalein are susceptible to multiple influences.

A. In the liver the dye is removed from the serum by the polygonal cells, and the rate of removal is the function of:

1. The hepatic blood flow. Anything which impairs the blood flow, such as circulatory failure, may result in a slow removal of the Bromsulphalein.

2. The concentration between plasma and cell.

3. "Saturation" of the cell. Presumably saturation of the cell may be reached by:[33, 34]

a. Interference with the excretory function or regurgitation into the sinusoids due to obstruction.

b. Decrease in the rate of excretion by the polygonal cell. Not too much is known of the latter. Apparently Bromsulphalein is removed less readily than bilirubin and other substances, and therefore a dissociation of the dye from the bilirubin is possible in disease of

the liver cell. A previous injection within a few hours results in a slower uptake of a second dose, although after a day's interval the uptake is not retarded.

c. Blocking of sinusoids by material other than Bromsulphalein, bilirubin, dyes, and the like. In the interpretation of the test, these factors must be individually weighed. The size of the dose, therefore, affects the saturation point as well as repetition. Metabolic substances such as proteins, carbohydrates and fats apparently do not affect the test. Accordingly, the simultaneous use of hippuric acid or various sugar tests would not affect the Bromsulphalein. It may, therefore, be clearly dissociated from these tests as well as those measuring protein derangement.

III. Bromsulphalein is interfered with by general body conditions. Fever as such will increase the retention.

The value of the test lies in the fact that in slight jaundice it directly measures a function of the liver cell at a given time, that it is highly sensitive to minor changes, that its technical performance is nearly foolproof, and that it may conveniently be performed in conjunction with any other test except the bilirubin excretion test. Thus it may serve as a check upon other tests.[3,6] For instance, it may clarify the meaning of an elevated alkaline phosphatase in slight jaundice. It is more or less useless in moderate to severe degrees of jaundice.

Summary

The clinician has at his command tests capable of giving him much information concerning a jaundiced patient; they may be used in differentiating the cause of the illness in so far as they detect and measure stimulus or depression of liver cells and the manifold reactions of various tissues to the presence of different types of processes. They are unnecessary in most situations, the diagnosis being apparent from the history of the course of the disease and the physical examination of the patient, but as the effects of the disease and its manifestation become a more complex algebric sum, the tests are needed. As has been pointed out, the factors in this sum usually become so numerous that no single test or group of tests will fill in sufficient integers for its solution. An example of the changing pattern of the tests with increasing complexity of the disease is shown in figure 7.

Fig. 7.—Changing Pattern of the Tests with Increasing Complexity of the Disease

Disease Becomes Complex	Test Group (Fig. 4)
Hemolytic icterus	
1. Uncomplicated	A ± characteristic change B, C, D negative
2. Uncomplicated (fever)	A, B, C, D positive (except some of C, for example hippuric acid)*
3. Liver cell damage	A ± characteristic change B negative (except those included in A) C ± (according to degree of sensitivity) D positive
4. Excretory block†	A ± characteristic change B positive C positive (according to degree) D negative (mainly inhibited excretory block overriding)

*The effect of fever on some is unknown, for example, hippuric acid excretion.

†Common duct stone.

Multiple tests must be run, usually at least one from each group: the "liver profile" so-called. The selection is determined by the physician's estimate of the number of the integers present in the sum of the individual case. Since, however, the ability of the liver cell is not "all or none" so that some functions are performed more readily than others, and since some tests may be affected by both external and internal conditions other than the disease process being investigated, a number of "profiles" need to be included in the clinician's repertoire.

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430 West Monroe Street.

President McEwan's Address

Eighty-First Annual Meeting

Scheduled for Publication

June Issue

Symposium on the Differential Diagnosis of Diseases Associated with Jaundice: III. Role of Liver Biopsy

THEODORE C. KELLER, M.D.
MIAMI

The use of needle biopsy of the liver as a diagnostic procedure has received much favorable attention for the past 15 years, and both its value and its limitations in the differential diagnosis of jaundice can be conveniently presented in four broad categories: The first concerns its ability to distinguish between obstructive jaundice uncomplicated by infection, viral hepatitis and portal cirrhosis. In differentiating these three conditions the liver biopsy probably plays its greatest diagnostic role. The second concerns a group of conditions which are characterized histologically by obstructive jaundice in conjunction with either acute or chronic pathologic changes of the intrahepatic biliary system. The third concerns its place in the diagnosis of tumors and certain specific infections, and the fourth concerns its use as an adjunct in the diagnosis of hemolytic jaundice.

Obstructive Jaundice

In cases of obstructive jaundice uncomplicated by infection the principal pathologic change is a concentration of bile thrombi around the centrolobular veins without evidence of inflammation or scarring. Neither the exact cause nor the location of the obstruction is demonstrable, but when bile stasis of this type occurs and significant changes are not visualized in the remaining areas of the hepatic lobule, the obstruction will usually be found to involve the extrahepatic biliary system.

Among the more prominent histologic features of acute nonfatal hepatitis are heavy infiltrations of inflammatory cells both in the portal canals and also in the remaining areas of the liver lobule. Upon close examination the inflammatory cells may be identified as mononuclear cells often accompanied by a few eosinophilic leukocytes. Polymorphonuclear leukocytes are sparse and are not seen in sufficient number to be significant.

Peculiar forms of degenerated liver cells resembling the Councilman body of yellow fever are frequently seen in cases of viral hepatitis and are seldom observed in other forms of liver disease. While not pathognomonic of hepatitis, they are often helpful in establishing the diagnosis.

Although clinical jaundice is often present in the acute phase of hepatitis, evidence of bile retention in the biopsied material is usually limited to a few small bile thrombi distributed at random throughout the lobule.

In cases of portal cirrhosis the biopsied material presents the familiar histologic changes which occur in this condition. The cirrhotic liver is a micronodular organ, and each of the nodules is surrounded by scarred portal canals containing numerous bile ducts. The central hepatic veins are usually incorporated in the scarred areas and often cannot be differentiated histologically from the portal veins. For this reason the islands of liver parenchyma which remain are referred to as pseudolobules.

Obstructive Jaundice with Pathologic Changes of Intrahepatic Biliary System

When inflammation of the portal canals and jaundice occur together, it is often difficult to determine whether the pathologic changes represent a primary infection of the intrahepatic biliary system or whether they are secondary manifestations of a tumor, a calculus or a liver abscess, and in most instances the evidence is not clear enough to warrant a definite statement on histologic grounds alone. Biopsied material will usually serve, however, to eliminate viral hepatitis and portal cirrhosis as possible etiologic factors.

If the obstruction is not relieved, the portal canals become scarred, bile stasis continues, and the histologic appearance of obstructive biliary cirrhosis finally supervenes.

Read before the Florida Medical Association, Eightieth Annual Meeting, Hollywood, April 27, 1954.

Hepatic diseases in which the combination of jaundice and portal inflammation or scarring comprises the principal pathologic feature are referred to under several names since there is no uniform terminology. If inflammatory exudate is actually found within the lumina of the bile ducts, the disease is designated as suppurative cholangitis; if the inflammatory cells are limited to the supporting tissues of the portal canals, the term pericholangitis is employed; and when scarring of the canals is advanced, the diagnosis of obstructive biliary cirrhosis is used. "Cholangiolitis," "cholangiolitic hepatitis" and "cholangiolitic cirrhosis" are acceptable clinical terms, but so far no consistently uniform histologic counterparts have been found for the clinical entities that bear these names. In some of the cases so designated biopsied material reveals evidence of either acute or chronic pericholangitis with bile stasis.

Tumors and Specific Infections

Tumors and certain specific infections, such as tuberculosis, can be identified provided that material from an affected area is obtained in the course of the procedure. Since however, these conditions affect the liver in a focal rather than in a systemic manner, one obviously cannot guarantee that suitable material will be obtained.

Hemolytic Jaundice

In acute acquired hemolytic anemia with clinical jaundice the liver cells contain abundant deposits of hemosiderin which can be differentiated from other pigments by a specific stain known as the Prussian-blue reaction. While helpful in confirming the diagnosis, a liver biopsy is seldom required in this condition.

Comment

Most needle biopsies of the liver are without complication, and both the morbidity and the mortality are minimal if a few precautions are taken. While statistics vary, a recent review of more than 20,000 cases indicates that the true mortality is less than 1:1,000.[1] The most frequent serious complication results from excessive bleeding, and consequently the procedure is usually contraindicated in patients who manifest a bleeding tendency or impaired blood coagulation.

Because of the possible leakage of bile the risk is increased in the presence of severe jaundice, and a few cases of bile peritonitis following biopsy have been reported. This complication, however, rarely occurs, and for this reason the presence of jaundice is not regarded as a contraindication to biopsy. When a liver biopsy is to be employed, it is recommended that it be performed as soon as possible and not saved as a last resort after exhaustive clinical and laboratory studies. Early biopsy is especially important for diagnosis in the jaundiced patient since prolonged obstruction, if unrelieved, inevitably results in either inflammatory or sclerotic changes of the intrahepatic biliary system.

Though not without some danger, needle biopsy of the liver is regarded as a relatively safe procedure, and those who use it consistently believe that the gain is well worth the risk.

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NUMBER 11

Post Partal Heart Disease

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This article is written primarily so that doctors, being the more familiar with and cognizant of this type of syndrome, may recognize the condition, its predisposing and precipitating factors, may offer the patient the therapeutic possibilities of the newer drugs and may assist in investigating a more specific etiology.

Etiology and Classification

The condition known as post partal heart disease is, in the opinion of many, not an idiopathic form of myocarditis and in their opinion, therefore, should not be categorically listed as such. To date, the reference literature is not too abundant. Perhaps, with the passing of years and with more case history analysis, it will be relegated and subdivided as former nephron nephrosis, as to pathologic physiology and etiologic agents.

In a recent article Bashour and Winchell[1] presented 2 cases which apparently fit the so-called pattern of this condition; 1 case was questionably attributed to sulfonamide therapy, and the other followed a virus infection which was endemic in the area at the time. Their conclusions were: "The question that diffuse myocardial disease may be well related to any number of possible etiologic agents must be considered and therefore there was no real evidence to support a syndrome of post partal disease." Weiss[2] in 1939 stated: "Whether this type of illness is related to infectious, metabolic, or to a group of upper respiratory disease or Fiedler's myocarditis, is not clearly differentiated."

The possibility that some of the newer antibiotics, the hormones including desoxycorticosterone and the corticotropin group, may themselves be contributory to the etiology of this illness, must be kept in mind. The administration of the sulfonamide drugs in the past has been frequently accused, and there is no reason to believe that they may not have etiologic significance; it has been proved experimentally that a myocarditis mimicking this disease and identical in its pathologic findings may be produced by the administration of a sulfonamide in the experimental animal.

Read before the General Staff, St. Joseph's Hospital, Tampa, 1954.

Post partal heart disease is more common in the Negro race and occurs more frequently in the first pregnancy than in subsequent pregnancies.

Certainly, with the advent of many newer types of drugs and with more frequent sensitivity reactions, the physician must be alert in pregnancy cases to the possibility of an aftermath of a syndrome consisting of cardiac failure, with either a prolonged morbidity or an eventual fatality.

From a review of the literature and from the case presented, particularly emphasizing the great similarity of this group of cases, it appears there is most likely a syndrome idiopathic to pregnancy occurring post partum and not related to many of the known etiologic factors seen in this period, such as glomerulonephritis, toxemia of pregnancy, nutritional diseases such as beriberi, or other recognized heart diseases which tend to become aggravated toward the end of pregnancy.

History

The first reference to this type of illness occurred in an article by Virchow in 1870 describing a so-called idiopathic myocardial degeneration. It was not until 1933, however, when Williams[3] reported a large group of autopsied cases of so-called idiopathic myocarditis, with its symptoms of emboli, usually pulmonary, that the literature became more abundant and attracted the attention of the cardiologist and obstetrician. Saphir's review[4] of 240 cases of myocarditis in 1941 added further stimulus. The latest reference to this subject appeared in an article in the Annals of Internal Medicine, April 1954.[1]

Symptomatology

Earliest symptoms usually occur two to six weeks post partum.[5] Noted are a definite diastolic gallop rhythm; a small pulse volume, anasarca and left ventricular failure with pulmonary edema. Usually there is a diastolic hypertension; the heart appears grossly dilated. In approximately 25 per cent of the cases, pulmonary emboli occur. Arterial peripheral emboli occur less frequently. The electrocardiographic changes do not vary from day to day as with other myocarditis, and particularly common in all the cases reported in the

literature in which recovery does not take place within a short time is the presence of a persistent bundle branch block, usually with a predilection for the left bundle.

In a classical case, there is the formerly healthy woman, in whom towards the end of pregnancy or more accurately after delivery, there develops progressive myocardial failure without evidence of any other type of vascular disease, together with the symptoms and complications mentioned.

Differential Diagnosis

One must consider the heart failure associated with toxemia of pregnancy, but as a rule the heart involvement in toxemia occurs at the latest one week post partum. Beriberi, which, with the exception of its neurologic manifestations, pathologically resembles this illness closely, may be differentiated by its specific vitamin response. Rheumatic heart disease has more valvular involvement, and its response usually is different. Definite infections have not uniformly been proved or demonstrated to be of etiologic significance. So-called Fiedler's myocarditis resembles considerably this type of condition, but most authorities believe it to be of infectious etiology.[5]

Pathology

The pathologic findings may reveal either minimal myocardial changes or interstitial edema, parenchymatous degeneration or necrosis. Endocardial stasis thrombi in the ventricles are common. Fragmentation of muscle fibers is infrequently found. Other supplementary pathologic findings in addition to that of the heart are the peripheral arterial as well as pulmonic emboli and the infarction or congestive nephritis, but none of the typical findings of glomerulonephritis.

The laboratory features themselves are nonspecific. The blood, urine and chemistry findings are in no way different than those found in the usual congestive cardiac failure.

Prognosis

The average physician is probably not aware that such a syndrome or its equivalent exists. In the majority of the cases there is a benign course with recovery, and they are perhaps classified as bronchitis or influenza. In the remainder, the patients either become incapacitated for a long period of time or become permanent cardiac cripples; some terminate fatally. The mortality rate is 1½ per cent of all cardiac deaths associated with pregnancy.

A good prognosis is the rule if adequate care is administered when early signs of cardiac failure are noted, and complete recovery is evaluated before discharge.

Treatment

In the usual case there will be response to bed rest, digitalis and the customary procedures prescribed for cardiac failure. In the more difficult cases and those in which apparently recovery does not take place quickly, the disease is extremely refractory to the usual types of therapy, to digitalis, as well as to the vitamin B preparations, a factor of special significance in view of the supposed relationship to beriberi.

In view of the high percentage of embolic phenomena in this illness, anticoagulant therapy is a recent and valuable therapeutic adjunct and should be considered by those interested in pregnancy and in heart disease. Again, because of the possible relationship of this illness to the sudden increase of cardiac work following delivery, bed rest should continue for at least two to three weeks after all signs of edema and cardiac failure have subsided and the cardiac tones have returned to normal.

Report of Case

A 30 year old white woman was admitted to St. Joseph's Hospital on Nov. 11, 1952. The essential features of her admittance history were delivery of a baby spontaneously without difficulty on Aug. 28, 1952, two and one-half months previously; for the past six weeks a productive blood-tinged cough with slight fever, extreme weakness and diffuse perspiration; and for the past two weeks inability to sleep because of pronounced shortness of breath, palpitation of the heart, orthopnea and edema of the extremities.

The past history revealed that the patient had two other children delivered spontaneously without difficulty. There was no history of heart disease, rheumatic fever or any rheumatic diathesis. In general, prior to this incident, she had been in good health. Her husband stated that as far as he knew, there had been no prior evidence of shortness of breath or of heart trouble. Her examining physician stated that prior to delivery and after delivery, her heart was, as far as he could determine, perfectly normal.

The physical examination revealed a white woman, well developed, well nourished and acutely ill, appearing rather pale and in a state of semishock. The blood pressure was 92 systolic and 60 diastolic; she was moderately dyspneic and was more or less coughing incessantly. The temperature was 102 F., the pulse rate 132, and respiration 30. The heart was definitely enlarged to the left, with a pronounced gallop rhythm of the protodiastolic type at the apex with the second tricuspid sound moderately accentuated as well as the second pulmonic sound. There were no evidences of thrills or any definite murmur. The lungs were typical of pulmonary edema with a percussible increased dulness in the right base posteriorly. The liver was '2 fingers' enlarged and tender; the spleen was not palpable. There was no evidence of ascites. The extremities and back showed a moderate degree of dependent edema. Electrocardiograms (fig. 1) revealed a left bundle branch block on the day of admission and alsoon November 23 (fig. 2), when it was more complete than on November 11. The treatment administered consisted of the routine treatment for congestive heart failure, including digitalis, low sodium diet, oxygen, mercurials and anticoagulant therapy in the form of Dicumarol. In view of the persistent hemoptysis and roentgen findings, it was assumed that this patient had a pulmonary infarct.

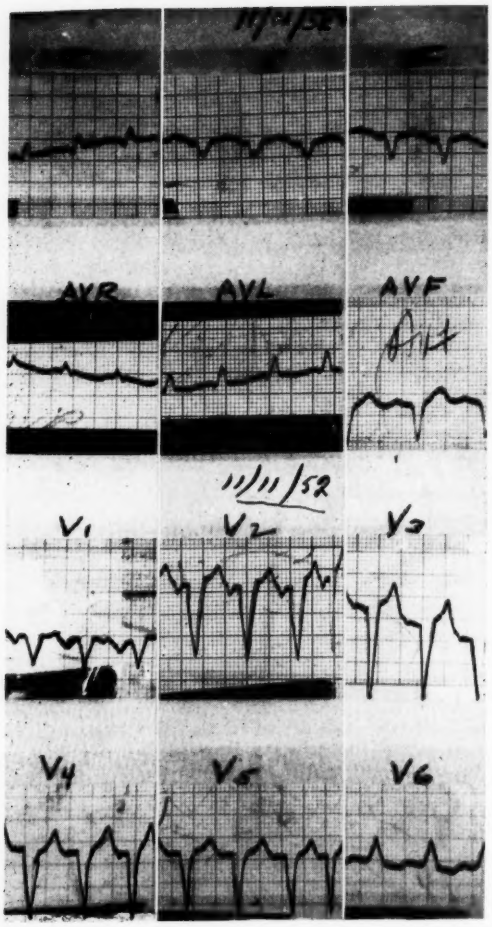

Fig. 1.— Electrocardiogram on November 11 revealed a left bundle branch block.

On admission the roentgenogram of the chest, portable film, was compatible with the diagnosis of moderate cardiac enlargement, infiltration of the base of the right lung and diffuse pulmonary congestion (fig. 3). On examination of the blood, the hemoglobin estimation was 12 Gm., the red blood cell count 3,850,000 and the white blood cell count 11,600, with a differential count of 75 per cent polymorphonuclears and 24 per cent lymphocytes. Urinalysis showed 1 plus albumin. The blood picture varied little throughout her entire stay in the hospital from November 11 to December 7, the date of her discharge.

Roentgenograms taken at intervals throughout this hospital stay showed on November 11 (fig. 3) cardiac enlargement and pulmonary congestion; on November 23 "slight clearing of vascular and perihilar infiltration, but persistent infiltration right base;" and on December 4 (fig. 4) "the heart to be of a globular shape, moderately enlarged, with evidence of peripheral residual right lateral pathologic change, interpreted as representing evidence of an old pulmonary infarct, otherwise complete clearing of the pulmonic pathology."

At the time of discharge on December 7, the patient was sitting up in a chair, was not dyspneic, felt perfectly comfortable and had been afebrile for about one week. She was given instructions regarding activities, digitalis and a low sodium diet. The diagnosis on discharge was diffuse myocarditis with left bundle branch block, congestive heart failure, and residual pulmonary infarct of the right lung.

Thereafter, I saw her on several occasions. She was ambulatory with restrictions, but the evidence of a gallop rhythm was always audible. An electrocardiogram in February 1953 revealed the same persistent bundle branch block. At that time she was able to attend church services and motion pictures, and to do the usual shopping without difficulty. There was no demonstrable evidence of cardiac congestion.

A roentgenogram (fig. 5) of the chest on April 3 demonstrated "the lung fields to be clear and essentially negative with the exception of the slightly enlarged globular heart and a slight blunting of the right costophrenic angle." There was no evidence of cough, hemoptysis or peripheral edema. She continued to take digitalis, and I attended her at approximately monthly intervals until the first part of September, at which time she became febrile and pulmonary congestion developed. This was the first recurrence of the pulmonic distress, or hemoptysis, since her discharge from the hospital some 10 months previously.

She was readmitted to St. Joseph's Hospital on September 14, at which time her blood pressure was 98 systolic and 80 diastolic, and the chest findings were essentially the same as on the previous admission — a gallop rhythm and pulmonary edema. There was no evidence of

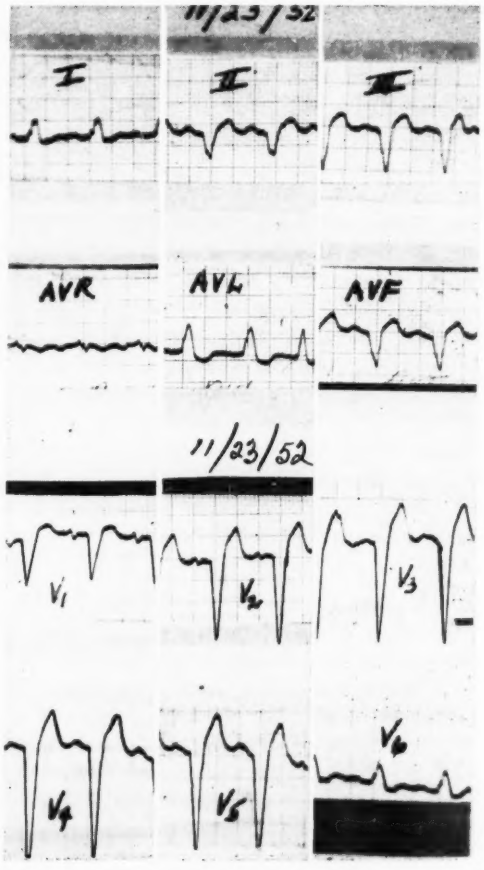

Fig. 2.— Electrocardiogram on November 23 revealed a more complete left bundle branch block than on November 11, the day of admission.

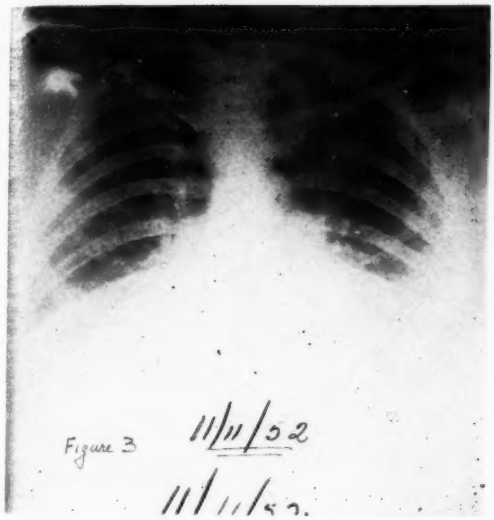

Fig. 3. — Roentgenogram of the chest at the time of admission was compatible with the diagnosis of moderate cardiac enlargement, infiltration of the base of the right lung and diffuse pulmonary congestion.

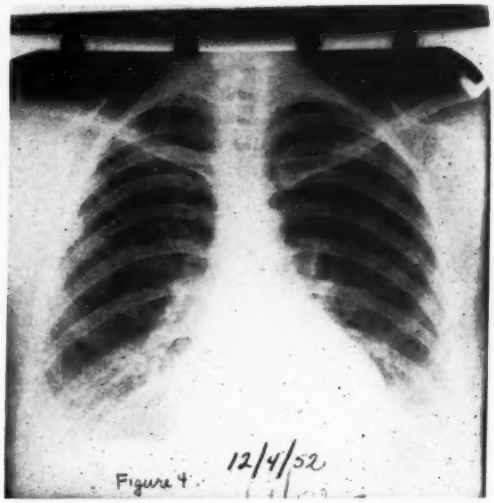

Fig. 4. — Roentgenogram of the chest on December 4 showed a globular-shaped heart, moderately enlarged, and gave evidence of peripheral residual right lateral pathologic change, which was interpreted as representing evidence of an old pulmonary infarct. Otherwise, clearing of pathologic pulmonic changes was complete.

a pericardial friction rub or of a murmur. The heart seemed to be beating exceptionally vigorously against the chest wall. There was extreme tenderness under the left breast area. The edge of the liver was only slightly palpable and tender; there was no evidence of ascites or splenic enlargement.

The diagnosis on admission was diffuse myocarditis with multiple pulmonary infarctions and cardiac failure. The source of the pulmonary infarcts was thought to be associated with a damaged myocardium probably secondary to pregnancy if the history and examinations prior to this last pregnancy were correct. An electrocardiogram (fig. 6) revealed a similar persistent left bundle branch block.

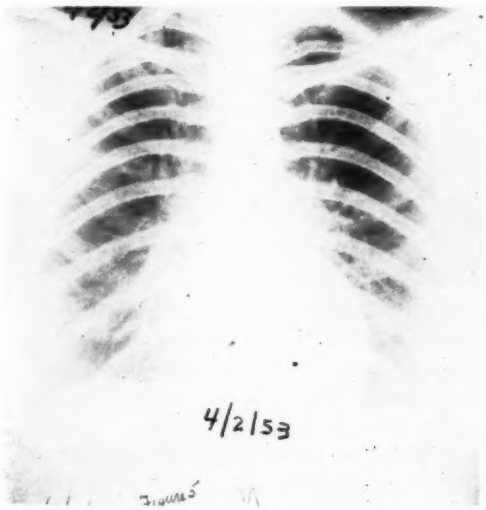

Fig. 5. — Roentgenogram of the chest on April 3, 1953 showed only the slightly enlarged globular heart and a slight blunting of the right costophrenic angle. The lung fields were entirely clear.

Roentgenograms of the chest on September 16 (fig. 7) and 30 (fig. 8) revealed gross cardiac enlargement and pulmonary congestion and probably multiple infarcts, particularly of the lower lobe of the right lung. The temperature on admission to the hospital was 102 F., pulse rate 106, and respirations 24. The temperature curve during this her last hospital stay remained markedly elevated, going as high as 104 F. on several occasions and with chills, frequently once or twice daily. The electrolyte balance on admission was essentially within normal limits. The white blood cell count was 34,600 with 86 per cent polymorphonuclears, 9 per cent lymphocytes and 5 per cent monocytes; the platelets appeared decreased. The hemoglobin was 12.3 Gm.; the protein bound iodine was 4.9 micrograms per hundred cubic centimeters, which was within normal limits. The urine was essentially normal. L. E. studies, peripheral and bone marrow, as well as two blood cultures gave negative results. The sedimentation rate on two occasions was not elevated.

Medication consisted of the usual therapy for cardiac failure, in addition to large doses of antibiotic therapy, penicillin, the "mycins" and anticoagulants. In view of the failure of response in this case, she received a week's trial of the corticotropin hormones.

A surgeon was called in consultation to see if he had anything to offer as to whether there might be phlebothrombosis in the legs or some other source of the pulmonary emboli. It was his conclusion, however, that "the whole problem was one of a cardiac condition with complications." He could see no indication for surgical intervention.

During this period of hospitalization, the course was progressively downhill: increasing hepatic enlargement, anasarca, cardiac failure, pulmonary edema and an increasing degree of hemoptysis until the time of death. There was, at no time, evidence of peripheral petechiae or hemorrhages in the skin or conjunctiva. She expired on October 2, one year and five weeks after delivery.

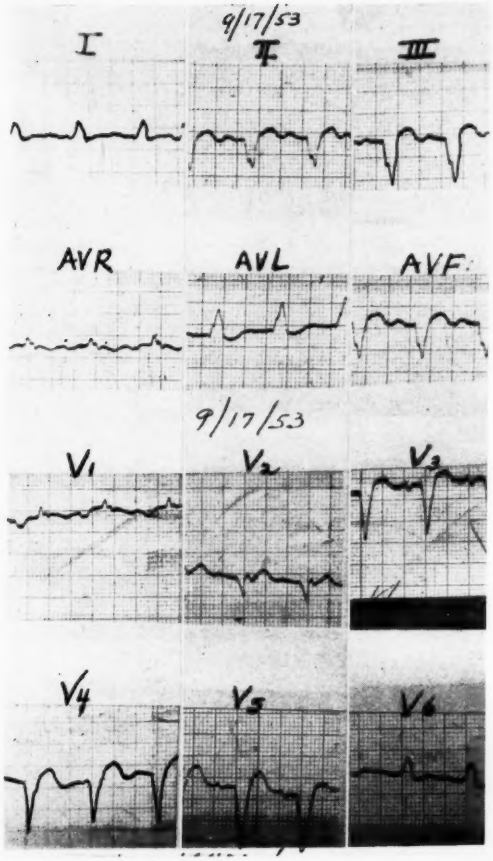

Fig. 6. — Electrocardiogram on September 17 showed persistent left bundle branch block similar to that on admission.

Throughout the entire illness, the heart did not demonstrate any specific murmurs or pericardial friction rub, but the same gallop rhythm that was audible with the first examination persisted throughout.

The differential diagnoses considered were subacute bacterial endocarditis, Libman-Sacks syndrome, pericarditis with effusion, and congential heart disease with the possibility of a superimposed bacterial infection.

The slides (microscopic) together with the case history were sent to two independent groups of pathologists in larger group clinics, and both groups concurred independently in the diagnosis of post partal myocarditis.

Autopsy Report. — In summary, the findings at autopsy, performed by Dr. Robert J. Davis, were:

1. Myocardial hypertrophy (450 Gm.) and dilatation (severe and generalized).
2. Multiple microscopic foci of degeneration and fibrosis in the myocardium particularly involving the interventricular septum and the subendocardial tissues of the left ventricle (figs. 9 and 10).
3. Mural thrombosis of the myocardium of both sides of the heart.
4. Thrombosis of the right ovarian vein and plexus as well as the periuterine veins and sinusoids.
5. Multiple pulmonary emboli with infarcts.
6. Small infarcts in the left kidney.

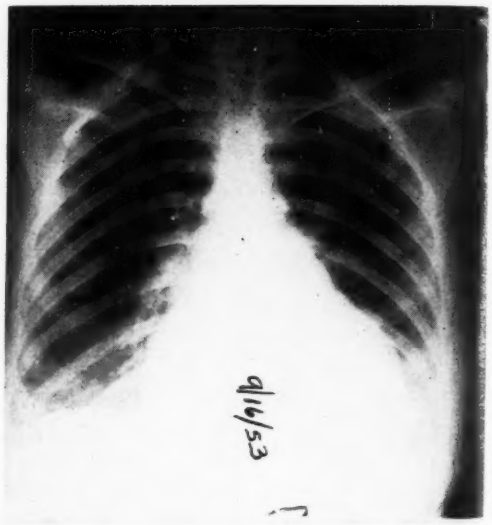

Fig. 7. — Roentgenogram of the chest on September 16 showed gross cardiac enlargement and pulmonary congestion and probably multiple infarcts, particularly of the lower lobe of the right lung.

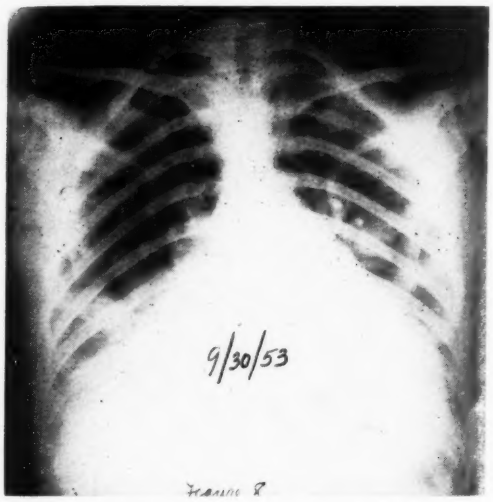

Fig. 8. — Roentgenogram on September 30 showed findings of September 16 unchanged.

7. Centrolobular congestion and necrosis of the liver.
8. Acute focal esophagitis and ulceration.
9. Two accessory spleens.

Dr. Davis commented: "The etiology of the myocardial lesions remains obscure. I believe the myocardial damage is the result of anoxia due to repeated pulmonary emboli. The small coronary arteries with emboli may have played a role in extending the lesions."

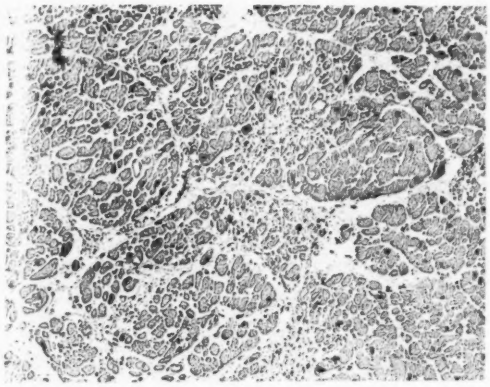

Fig. 9. — Specimen showing multiple microscopic foci of degeneration and fibrosis in the myocardium particularly involving the interventicular septum and the subendocardial tissues of the left ventricle. X 100.

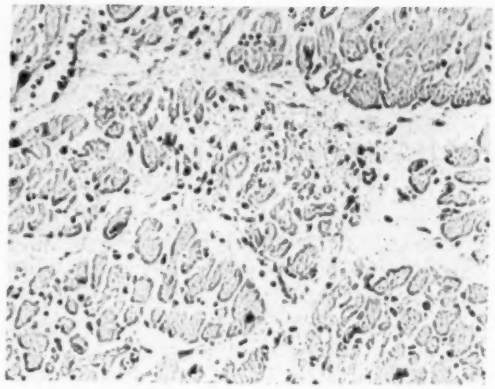

Fig. 10. — Similar findings. X 400.

Summary

A case is presented in which a cardiac condition occurred post partum. More clinical investigation is necessary, but obstetrician and cardiologist may profit from and clarify this diagnosis by being post partum myocarditis "conscious."

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Practical Management of Nasal Allergy

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PENSACOLA

During the past two decades there has been a great degree of emphasis on specialization. This is particularly noteworthy because the primary object of specialization is to increase basic knowledge and skill pertaining to individual areas of the body. It is apparent that the specialist not only should have an abundance of knowledge pertaining to the individual area of the body with which he is primarily concerned, but as well should appreciate its inter-relationship with the entire body functioning processes, namely, how it influences the body and how the body influences it. This appreciation is essential if treatment of any sort is to be satisfactory.

This presentation on the practical management of nasal allergy purposes to make clear that nasal allergy is merely a local manifestation of a general systemic disease, which affects the entire organism in various degrees. Ultimate treatment must be instituted to the entire organism to insure a satisfactory result.

Read before the Eye, Ear, Nose and Throat Hospital Alumni Association, New Orleans, April 5, 1954.

Diagnosis

In the nose there are many conditions which may simulate allergy or even coexist with allergy. The nose, with its abundance of erectile tissue and autonomic nerve supply, is capable of a wide variety of moods and disorders. Allergy, infection, endocrine deficiency, and emotional disorders attack it frequently and sometimes may operate in unison. One should be able to decide at a glance whether or not a patient who is already in the throes of one condition is coming down with another.

More so than in any other disease, history is the most essential factor in arriving at a satisfactory diagnosis. If the history is satisfactorily developed, it will be evident that 50 to 60 per cent of allergic persons have some positive family background of allergy, especially if one considers the chronic catarrhs and sinus diseases of the past decades.

When allergic etiology is suspected, the clinician must take a detailed personal history of the patient dating back to childhood and inquire as to colic regurgitation, indigestion, eczema, and hives. Many of these episodes are normally forerunners of allergy.

Next, one must pinpoint the episodes of discomfort experienced by the patient as to time of year and time of day, and evaluate environmental and occupational factors, which may be the primary or secondary etiologic factors in the disease process.

The examination of the nose in uncomplicated allergy shows pale, boggy turbinates, polyps that are bilateral or multiple, if the process is of long duration, and sinuses that have some uniform haziness on transillumination. Many allergic noses may appear grossly normal to the examiner, and it is here that a simple and easily performed diagnostic aid may be utilized, namely, nasal cytology.

About half of the persons who complain of a chronic postnasal drip have a normal-looking nose. If one takes the trouble to examine the nasal secretions from the nostrils, eosinophils will be found in about 5 per cent, and a normal clear mucus devoid of leukocytes in about 15 to 20 per cent. When there is positive indication of in-inflammation in the nose, one may find that approximately 80 per cent of the smears contain neutrophils and that 30 per cent contain eosinophils. A positive finding of eosinophils is of significance, but the absence of eosinophils does not rule out the condition. In the majority of cases there is some evidence of infection, usually subclinical, and not a little evidence of allergy, which seems to suggest considerable overlapping in a great many instances. The Hansel stain makes cytologic examination a simple office procedure.

Management

If, after the history and the nasal cytology, one is led to believe that there is a probability that the primary condition is an allergic one, then indicated skin tests should be performed as a confirmatory measure and as a guide to specific treatment. I reiterate the phrase "indicated skin tests." It is rarely necessary for the otolaryngologist to have to perform more than routine tests for inhalants and common foods. It is the consensus of the majority of allergists that skin tests for foods are at best 50 per cent accurate and are relatively unimportant except in urticaria and childhood and adult eczema. Individual food tests and subsequent dietary control may be employed if food is indicated as a large factor in the patient's disability. Usually this information is obtained primarily from the history. After the performance of indicated tests, specific treatment may then be instituted. This will consist of desensitization to the offending allergens, and avoidance and elimination, if feasible, of the offending agents.

Specific allergic management does not preclude the institution of proper management of coexisting nasal infection, or sinus infection. These infections are handled in the usual manner and in many instances must be controlled before any degree of success can be obtained with allergic management. Obstructions to adequate ventilation and drainage of the nasal airway must be removed and coexisting underlying infection eliminated. The removal of infected tissue represents an important phase of preventive allergy.

In nasal allergy of long standing with underlying secondary infection, in many instances specific allergic therapy will not be successful unless, at the same time, some form of bacterial desensitization is incorporated with the specific allergic management.

In many instances bacterial invasion will appear to be the activating factor in an allergic disorder. The use of indicated antibiotics definitely shortens the duration of disability in many instances and definitely shortens the duration of the subsequent allergic episode. Many authors have reported extremely beneficial results from the use of autogenous and stock vaccines in the treatment of intrinsic and extrinsic asthma. It is reasonable to anticipate equally beneficial results in allergic rhinitis with associated intrinsic factors in the pharynx or sinuses. I have utilized stock and autogenous vaccines routinely during the past four years in cases of nasal allergy that were precipitated or exacerbated by superimposed infection. Nasal cytology repeated at infrequent intervals will give one an index as to the need for this form of treatment.

It should be fairly obvious to this group that a frequent aggravating factor in nasal allergy is medication topical in nature which the patient in many instances has administered to himself over a long period of time prior to reporting to the office. It is not uncommon to have cases that appear to be nasal allergy due purely to topical vasoconstrictors, Privine being one of the most frequent offenders that I personally have encountered; however, any type of nasal medication, if used over a long period of time, may in itself be initiating and a contributing factor in nasal allergy. Medicine taken internally over a long period of time likewise may be a perpetuating factor in nasal allergy.

It is routine practice in my office not to attempt to perform any diagnostic skin tests on patients on their initial visit to the office if underlying nasal allergy is suspected. The usual procedure is to eliminate all medication which the patient has previously used to control his condition; secondly, measures are taken at the initial visit to attempt to improve the general nutritional status of the patient. These consist of supplementary vitamins, and protein hydrolysates as supplementary feedings especially in malnourished children. If the initial history contains many episodes of indigestion, or gastrointestinal upsets, and so-called food intolerances, a gastric analysis is obtained. Many of these patients are deficient in free hydrochloric acid, and their alimentation can be greatly improved by giving Normacid before meals in appropriate dosage. All intranasal medication is discontinued, and some form of vasoconstrictor, such as syrup of Ephedrol, Propadrine, or Dexedrine is prescribed to be taken internally, while the nasal tissues are given a so-called period of rest. Sedorzyl, a preparation containing iodine and propadine, has proved to be most efficient for this purpose in all age groups.

Measures are taken to insure the patient a reasonable period of rest at night, and sedation is prescribed. After the patient has been on this regimen for a week or 10 days, he is asked to report back to the office. In many instances, there is a great improvement in the underlying nasal allergy. This initial period of placing the tissues at rest and an attempt to build up the nutritional status of the body tissues will greatly shorten the subsequent therapy in many cases, and also tend to eliminate any false positive skin reactions. As has been indicated previously, there are many conditions which may coexist with nasal allergy which will produce essentially the same conditions as nasal allergy. Unless these are controlled, the underlying treatment will be of little avail.

Psychiatric Aspects

The recent literature is voluminous on psychiatric aspects of allergy and on psychotherapeutic management of allergy. One outstanding conclusion can be drawn, namely, psychiatry has gone far in the understanding of these patients but has yet done far too little in the way of relief. Basic emotional disturbances tend to make the patient less resistant to provoking allergens. From these various studies, one may conclude that the anxious allergic patient will usually do well on some form of sedation; the depressed patient is helped by preparations such as Dexamyl; the hostile patient should receive minimal doses of drugs which may be stimulating; and the euphoric and phobic patient may require psychotherapy. The type of drug employed should be correlated to the immediate emotional state of the patient.

Deficiency Factors

Endocrine dysfunction is not an unusual accompaniment of allergic disorders.

Hypothyroidism probably does not occur any more frequently in persons with an allergic condition than in the whole population. Many clinicians only recognize hypothyroidism when it is most apparent, and unfortunately this is frequently the only type about which information is taught or written. Hypothyroidism occurs most often in subclinical forms of mild degree, and these states can occasionally last temporarily and not be recognized. A clinical awareness of this possibility and having it confirmed by a determination of the basal metabolic rate makes satisfactory therapeutic results which would not otherwise be obtainable. Thyroid substance has some universal systemic effects; it is calorigenic, sympathicotonic, dehydrating, and appetite-stimulating. Subclinical hypothyroidism is far more prevalent in malnourished and physically retarded children than is generally appreciated. The dosage of thyroid employed in subclinical hypothyroidism may have to be raised to what is normally considered excessive levels, for the tissues not being in great need are not avid for the extract. Thyroid substance should be used intermittently as long as there is noticeable clinical response.

Deficiencies of androgens and estrogens may require replacement if after a reasonable period

of time one does not secure the anticipated results from proper allergic desensitization. These deficiencies may be anticipated if one will be aware that allergic disorders occurring after the third decade may have some concomitant endocrine dysfunction, which may be subclinical and is just as prone to occur in either sex. It should be emphasized that no form of endocrine supplemental therapy should be undertaken, especially of the estrogen and androgen variety, or a combination of the two, without a thorough evaluation to rule out any possibility of underlying malignant disease in the reproductive organs. This form of therapy is definitely not indicated when one encounters a positive background of carcinoma in the patient. Utilization of a combination estrogen-androgen oral therapy, Gynetone Repetabs, has proved most efficacious in my hands. It affords the patient an improved muscular tonus and sense of well-being without the undesirable effects of either preparation utilized alone. Appetite and mental alertness are improved especially in the elderly patient, and nasal symptoms are definitely improved.

Nonspecific Measures

Nonspecific measures that may be employed in nasal allergy which are in vogue today consist of therapy with antihistaminics, and also with ACTH and cortisone, the latter being employed in nose drops and injected into the turbinates. These drugs are definitely not curative. The corticotropins produce pronounced systemic changes, and the periods of relief afforded by their utilization are most uncertain. Allergic reactions to these agents have been reported, as well as production of major psychotic episodes. Current opinion does not favor the systemic usage of the corticotropins in nasal allergy.

Submucosal coagulation of the turbinates and submucosal resection of the inferior turbinates have been reported as favorably influencing the course of clinical allergy by competent clinicians. In long-standing cases one can appreciate the stasis and resultant hypertrophy that will result and in properly selected cases coagulation may be a useful adjunct to treatment. Submucosal resection of the inferior turbinates is utilized when the encroachment on the airway is produced by the enlarged bony component of the inferior turbinate. My personal experience has not included this procedure.

Conclusion

Needless to say, all of these approaches to the treatment of allergy have helped to allay certain symptoms and therefore have important therapeutic value; however, they have not helped resolve the basic vexing problem of allergy. The contributions of therapy based on the allergen antibody concept have given a profound insight into the fundamental nature of allergy. It is therapy that is based on this concept that offers the greatest hope for good and lasting results.

In conclusion, I wish to reiterate that the treatment of allergy must be viewed from a constitutional and preventive standpoint. It entails a search for all offending substances, and their elimination or reduction, and a definite program for building up an immunologic tolerance for the offending allergens. Nutritional, psychogenic, and endocrine factors must be controlled if therapy is to prove efficacious.

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404 Blount Building.

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Auricular Septal Defect in a Seventy Year Old Patient

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While a moderate degree of longevity, approximately 40 years, can be expected in congenital atrial septal defects, such a defect in a 70 year old patient seems unusual enough to be worth reporting.

The patient was a white woman presenting the classical appearance of the gracile habitus, being 5 feet 1 inch in stature, of frail build and bony structure, and having gray hair and delicate texture of skin. Her record dated back to 1940, at which time she first visited the outpatient cardiac clinic. The symptoms at that time and up to the time of her death were those of congestive heart failure. There were numerous hospital admissions, but she was ambulatory most of the time. Up to the time of the last admission she was in the classification of grade 2 to grade 3 decompensation. Digitalis, mercurial diuretics and low sodium diet along with restriction of physical activity gave the patient relatively satisfactory results during the 14 years she was under observation.

Clubbing and cyanosis were notably absent, but acrocyanosis was noted from time to time. She died during a course of bronchopneumonia, a frequent complication of auricular septal defect.

Along with the classical findings of cardiac decompensation there was slight deformity of the left wall of the chest. Auricular fibrillation was present constantly since the first observation in 1940.

The blood pressure was in about the range of 122 systolic and 65 diastolic most of the time. The low blood and pulse pressures, usually present in such cases, were not noted. The roentgen findings were typical, consisting of great enlargement of the right auricle and right ventricle, prominent pulmonary conus, absence of aortic knob and increased hilar shadows. The heart murmurs consistently showed accentuation of P2. A diastolic murmur heard over the left sternal border at the level of the third intercostal space was present along with grade 2 systolic apical murmur. Rales were present in both lung fields posteriorly at the base.

The electrocardiograms over 14 years showed little change. Along with persistent auricular fibrillation, there was evidence of a right bundle branch block.

Autopsy revealed enlargement of the right auricle of considerable degree, hypertrophy and dilatation of the right ventricle, great enlargement of the pulmonary artery and a relatively small aorta. An oval opening between the two auricles measured 3.3 by 2.8 cm. There was no evidence of mitral or aortic valvular disease.

Summary

A fatal case with autopsy is reported in which a 70 year old white woman with congenital interatrial septal defect was observed for 14 years. All classical findings were present with the exception of the low pulse pressure. Arachnodactylia was not present.

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ABSTRACTS OF MEDICAL ARTICLES

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The Journal of the American Medical Association is limiting its Current Medical Literature section. Thus, our main source of information on articles written by our members has been greatly curtailed.

Changing Trends in the Surgical Treatment of Pulmonary Tuberculosis. By Hawley H. Seiler, M.D. South. M. J. 47:627-633 (July) 1954.

As a direct result of the remarkable advances made in the field of thoracic surgery in recent years, pulmonary resection is now accepted as an essential part of any well coordinated therapeutic program in the treatment of pulmonary tuberculosis. In discussing this change of concept regarding the treatment of this disease, Dr. Seiler points out that such procedures as pneumonectomy, lobectomy, segmental and wedge resection, and local excision today take precedence in most instances over collapse measures including thoracoplasty. Formerly used extensively, the collapse procedures continue to be used occasionally, but their role is a diminishing one.

This author comments upon such factors as the streptomycin era, improved anesthesia, and the aggressiveness of thoracic surgeons, with greater boldness, more extensive surgery and the use of new technics and refinements resulting. He cautions, however, that surgery is merely an adjunct in the over-all therapy in this disease and must be combined with the basic principles of treatment, namely, rest, sanatorium care and antituberculous drugs. Also, of extreme importance is the proper timing of surgery as related to the over-all therapeutic regimen. He advises an open mind on the subject of therapy as present concepts are constantly susceptible to change as a result of the advent of newer drugs and newer surgical methods.

Renal Function after Complete Bilateral Ureteral Obstruction Following Colporrhaphy. By Benedict R. Harrow, M.D. Am. J. Surg. 87:842-850 (June) 1954.

A case is described in which complete bilateral ureteral obstruction occurred following gynecologic surgery. It is believed to be the ninetieth such case reported in the English literature and the fourth in which such an episode followed an anterior colporrhaphy. Also, it is the fourth proved case of complete ureteral obstruction due to kinking and the only reported case in which roentgenograms demonstrated the kinks. Of particular interest was visualization of iodide in a kidney completely obstructed for 13 days; obstruction persisted for a period of 23 days, but after four months the pyelogram was normal. The author discusses the experimental and clinical data of renal function and the low secretory pressure continuing in hydronephrosis during complete obstruction. He concludes that the main mechanism is glomerular filtration and urothelium reabsorption.

This case emphasizes that kinking alone can produce a complete obstruction which may last for several weeks and thus requires early surgical intervention to relieve the anuria. In making an accurate diagnosis in bilateral ureteral obstruction the use of the occlusion catheter is regarded as invaluable. Bilateral nephrostomy or intubated ureterostomy rather than deligation is recommended as the treatment of choice even after vaginal surgery, and insertion of ureteral catheters in secondary colporrhaphy or in anticipated difficult abdominal surgery is strongly advised as a preventive measure.

Formation of a Labile Pigment in Rabbit Ova During Histochemical Demonstration of Succinic Dehydrogenase. By Alvan G. Foraker, Sam W. Denham, and Dorothy D. Mitchell. Science 117:449-451 (April 24) 1953.

These authors previously described the histochemical demonstration of succinic dehydrogenase, one of the vital respiratory enzymes. They demonstrated the activity of this enzyme in ovaries of rabbits injected with urine from pregnant or nonpregnant women. As a further investigation, reported here, they similarly processed additional blocks of ovaries of 3 rabbits receiving no urine injections in NT with succinate.

They conclude that it is reasonable to assume that the presence of labile reddish pigment within the rabbit ova as the sole manifestation of succinic dehydrogenase may signify the presence of a localized lesser degree of activity of this enzyme than found in certain other components of the ovary.

The Art of Clinical Radiology. By Joshua C. Dickinson, M.D. Am. J. Roentgenol. 73:1-4 (Jan.) 1955.

In his President's Address delivered before the Fifty-Fifth Annual Meeting of the American Roentgen Ray Society in Washington, D. C., last September, Dr. Dickinson reviewed the early history and technical progress of radiology. He then made a strong plea for the application of the art of clinical medicine in the practice of radiology. He would have today's radiologist become a real clinician, magnifying the role of the early radiologists, who "were keen clinicians who had the God-given ability to make accurate observations and interpret their findings in terms of pathology."

He added an earnest appeal for a program of resident training in radiology broad enough to include ample opportunity for adequate training in a proper physician-patient relationship as well as in research and in the mastering of complicated gadgets. It was his opinion that the development of the concept of the patient in teaching, rather than the disease, is a major aim in medical education today deserving every encouragement in radiology just as in other branches of medicine. He sought to impress upon the fledgling radiologist that upon certification by the American Board of Radiology he has yet to prove himself capable of being regarded as a competent consultant in clinical radiology.

Observing that clinical medicine has matured, he continued in conclusion: "In clinical Radiology at its best we care for the patient. The highest possible standards of scientific precision are no deterrent to compassion or any of the other generous gifts of the healer. The goal is cure through understanding. In the words of Osler, 'The practice of medicine is an art, not a trade; a calling, not a business; a calling in which your heart will exercise equally with your brain.' The compensations are abundant and abiding. . . . The challenge is greater today than ever before, . . . Let us then cultivate the art of clinical Radiology wholeheartedly and nurture it properly so that it may fulfill the great promise which it holds for the future."

Pulmonary Resection in the Treatment of Blastomycosis. By Howard A. Buechner, M.D., Augustus E. Anderson, M.D., Lawrence H. Strug, M.D., John H. Seabury, M.D., and J. Winthrop Peabody Jr., M.D. J. Thoracic Surg. 25:468-479 (May) 1953.

The 2 cases here reported are believed to be the first to appear in the literature wherein lobectomy was employed in the treatment of pulmonary blastomycosis. One case, with a discrete nodular lesion, is the first to be reported in which resection alone effected an apparent cure. The excellent result in this case suggests that pulmonary resection should be strongly considered in the therapy of some cases of blastomycosis. In the second case, with acute progressive disease, the patient suffered an early relapse. The prompt recurrence in this case seems to indicate that resection alone does not represent wise or suitable therapy in dealing with intense, poorly localized, progressive blastomycotic lesions.

The authors point out that pulmonary blastomycosis must be differentiated from bronchogenic carcinoma, which it may simulate closely. In their opinion the management of blastomycosis should be similar to that of pulmonary tuberculosis. With this point of view in mind, they suggest that the combined use of drug therapy (diamidines, iodides, and vaccine) and resection might offer more favorable results in pulmonary blastomycosis, just as streptomycin and para-aminosalicylic acid combined with surgery have improved the prognosis of tuberculosis.

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"A.M.A. Seal" Disappears
Councils Expand Programs

The issuance of seals or emblems by any part of the American Medical Association has been discontinued. This recent change in policy of the A.M.A.'s product-evaluating councils is of wide interest to physicians and to the laity, for over the years the councils have become well known for this phase of their activities, better known probably for this work than for their other efforts in the broader educational aspects of collecting, digesting, and disseminating medical information. In fact, the seal or acceptance program has appeared to dominate their activities because of its dramatic effect and the prominence given it.

For many years these evaluating councils have provided leadership in the evaluation of products used by physicians and to some extent by the public. Since 1905 the Council on Pharmacy and Chemistry has evaluated and reported to the medical profession on drugs and related therapeutic procedures. The Council on Physical Medicine and Rehabilitation, formerly the Council on Physical Therapy, has gathered information since 1925 on therapeutic and diagnostic devices. The Council on Foods and Nutrition began evaluating nutritional claims and food products in 1929, and since 1948 there has been a Committee on Cosmetics. Over the years these councils have awarded seals to manufacturers and distributors of drugs, devices, and cosmetics complying with the rules for such acceptance. Also, an advertising emblem has been available for products not coming within the scope of a council. "Accepted for advertising in the publications of the American Medical Association" and "Accepted for advertising in Today's Health" are statements, often in the form of an emblem, which have become familiar to the public.

Because of the great demand caused by the tremendously and broadly expanding horizon in diagnostic, curative, and preventive medicine, the Board of Trustees of the American Medical Association and the councils plan to devote more time to this important phase of their work and to

increase this work to match the need. While the acceptance program has been useful through the years, the need for it has decreased as laws have been enacted and manufacturers have assumed more and more their share of responsibility in marketing worthwhile products. So the "A.M.A. seal" and the emblem are relegated to the past.

How will the expanded programs of the councils render more service to the profession and the public? The councils will issue reports promptly and frequently on what is new in diagnostic, curative, and preventive medicine in their respective fields; periodically they will review the status of agents and technics; they will develop basic standards for classes of goods; and they will undertake educational efforts to insure as much as possible the utilization of the information they gather, digest, and evaluate. Gathered from manufacturers, researchers, published medical literature and other sources, this information will be made available in The Journal of the American Medical Association. Books or booklets in which such information can be presented handily and usefully also will continue to be issued.

Will the advertising standards for the publications of the American Medical Association be lowered by this change in emphasis in the councils' programs? Although the long familiar seal will not be seen, there is every assurance that basic principles will continue in effect and that the best interests of the members will be served. The councils will issue statements on their programs and at the same time make available details on the principles of advertising for A.M.A. publications. Their long experience enables them to provide the leadership required to meet the extraordinary challenge all of medicine encounters today because of the swiftly moving pace of medical knowledge and the eagerness with which physicians and the public await it. Both doctors and patients stand to benefit.[1]

1. A. M. A. Councils Expand Their Programs, J. A. M. A. 157:664-665 (Feb. 19) 1955.

Proceedings of Eighty-First Annual Meeting Scheduled for Publication In the June Issue

Plea for Spiritual Rebirth Within Medicine

Among more than 100 papers presented at the A.M.A. Clinical Meeting in Miami, one with the intriguing title, "The Man Behind the M.D.," was on a subject somewhat different from the usual papers given at medical meetings. Dr. Julian P. Price of Florence, S. C., an A.M.A. trustee, delivered the paper before the pediatric group and used the opportunity to urge physicians to join in a spiritual rebirth within medicine.

In appraising the health of the country, Dr. Price expressed the belief that the physical and mental health of our nation is relatively good, but that there is evidence of spiritual disease. "Since the disease is spiritual," he added, "the treatment must also be spiritual."

The symptoms, he observed, were not hard to find. Among them he named "laxness of morals in our national government in recent years . . . the hold which organized vice has upon legislative and social life . . . increase in crime in our teenage population . . . bribery and unethical conduct in amateur athletics . . . the mad search for pleasure which causes our people to spend four times as much for beverages as they do for religious and welfare activities. . ."

Warming to this subject which had been milling around in his mind for years, Dr. Price called upon his fellow physicians to combat this "disease" by taking part in government, devoting particular interest to public education, working with boys and girls and charitable and philanthropic organizations, and having healthy, happy homes of their own.

"The only remedy," Dr. Price concluded, "which is of any avail — and to this history bears testimony — lies in a change of heart. It is my sincere belief that the greatest need of our country today — and of our profession — is a spiritual rebirth, a return to God and to his eternal principles. And the rebirth must come in the heart of the average citizen — and in the heart of the average doctor of medicine."

This address won prominence on page one of a Miami newspaper and furnished the basis of editorials in the Nashville Banner and several other newspapers. One commentator observed that from a newspaper standpoint Dr. Price's talk caught on like wildfire and really rang the bell with the public. And why not with the profession, too? It got down to bedrock.

Men Need Slimming Motive

One key to progress against the major health problem of obesity doubtless lies in the discovery of a motivating force sufficiently compelling to make men "strive for slimness" as women have. Be it social, attuned to fashion or otherwise, such a motive might halt the present trend. This trend promises to make obesity even more of a problem in the future than it is now. The increase in total population and the increase in proportion of older persons, since obesity is more frequent at older ages, form the basis for the dim outlook for the future unless the trend is reversed. These views were expressed by Dr. James M. Hundley of the National Institutes of Health, Public Health Service, Bethesda, Md. in an address at the Weight Control Colloquium at Iowa State College recently.[1]

This eminent nutritionist said that almost twice as many men as women suffer from obesity. The picture is reversed, however, among the Negroes, with an especially high prevalence of overweight among the women.

Persons who are overweight are subjected to definite health hazards. Dr. Hundley cited studies showing that overweight persons are more likely to have not just one but a combination of serious chronic illnesses, such as heart disease and diabetes, high blood pressure and arthritis, high blood pressure and disease of the gallbladder, and heart disease and gallbladder disease. While it is difficult to prove that overweight is the cause of these diseases, he observed, nevertheless physicians have noted improvement in diabetes and in hypertension when weight has been reduced.

Methods of controlling obesity are "crude," he declared, "but progress can be made." A major step forward would be the discovery of a motivating force sufficiently powerful to sway the masculine mind toward slimness. Any physician who could uncover such a motive would win an enviable place for himself in medicine and in the hearts of his obese fellow men. It is noteworthy that one of the three most popular motion pictures shown at the A.M.A. Clinical Meeting in Miami was "Management of Obesity" by Dr. Norman Jolliffe of New York City.

1. Motive Needed to Make Men Try to Lose Weight, Science News Letter 67:94 (Feb. 5) 1955.

Physician's Role in Care of Aged and Chronically Ill

Medical progress saves the lives of countless patients today who in days past would have become the victims of infectious diseases and other disorders now under control. In consequence, the number of those who become old and finally ill and debilitated steadily mounts. Literally millions of patients with long-lasting, poorly understood diseases and with crippling disabilities need care requiring special skills and concern not only with the disease itself but also with the patient's personal problems. Thus does progress multiply the many problems created by chronic illness and by the varying needs of aged and debilitated patients.

Intelligent preventive medicine, employing all the knowledge available today, is able to ward off some of the chronic diseases and some of the complications of aging. This point of view, realistic though it is, nevertheless is ignored far too often in the opinion of the noted research physician and medical teacher, Dr. Freddy Homburger. In his book entitled "The Medical Care of the Aged and Chronically Ill," published in mid-March and reviewed elsewhere in this Journal, he observes that the attitude of many physicians and of today's medical students when faced with the aging patient is often one of resignation and lack of interest. Yet these patients present some of the most rewarding opportunities for preventive as well as curative medicine.

The role of the modern physician in the management of chronic illness is tremendously challenging. A person turned 80 has a life expectancy of more than 5 years. Should medicine not make these years as agreeable as possible? The patient over 50 with aches and pains may have senile osteoporosis. Will he be a shriveled, weak, unhappy person in a few years, or a well-preserved, active one? That will depend on whether the physician knows how to handle this problem and does so, or merely dismisses the situation as just another price one has to pay for growing old. Too, it is just as bad medicine to give pills for dysfunctions arising in older persons because they feel lost, useless and lonely as it is poor medical judgment not to seek out those difficulties responsive to therapy, simply because a person is old. Dietary readjustment, with perhaps enzyme substitution therapy, and some intelligent psychotherapy, for example, may greatly benefit the

dyspeptic person, depressed and losing weight, whose uneven temper is hard on others.

Preventive geriatrics is a new concept requiring a broad approach to people as persons with potentials for degeneration and dysfunctions all along the line of medical possibilities. Diabetes, urinary infections and mechanical difficulties, nutritional fads and many relatively minor difficulties detected and corrected or controlled early may prevent later disaster and chronic disability. Surely it should not now require the dramatic impact of cancer upon a person's life to impress upon people how important it is to search for diseases in early stages and to prevent them.

"The time has now come," writes Dr. Homburger, "when it is possible to do much in a most constructive manner for a host of difficulties, and to do it better the earlier these disorders are discovered. . . . This . . . requires a new state of mind which has to be developed in the present generation of medical students, who still are inclined to consider a patient over 50 with only minor complains an 'old crock,' and a patient of 70 someone for whom nothing can be done 'anyway'."

This same antiquated medical attitude, he finds, renders it difficult for many aging persons and patients with chronic diseases to find sympathetic medical understanding and competent care. Few physicians like to deal with patients who present vague complaints and are "simply getting old," and for whom they think they can do little or nothing. This attitude results in the innumerable "nuisance patients" who go from doctor to doctor. Just because a physician did not learn in medical school how to manage effectively problems of age and chronic illness, he should not pass up the opportunity that now exists. He owes it to his patients to know the possibilities, rather than to dispense pessimism. He can at least find the specialists interested in the modern management of the paraplegic patient. He should know that — a colostomy is no calamity but can function so that a normal life is possible — a stroke may not mean the end of active life — aches and pains of old ladies may be osteoporotic and often curable rather than inevitable— gouty patients' attacks may be prevented — the arthritic patient need no longer become a hopeless prisoner of his joints without a heroic medical struggle — and even degenerative bone and joint disease may benefit from modern management or be correctable by surgery. In addition, the elderly "nuisance patient" after thorough evaluation is entitled to a program of total care which should continue, ideally, until either the patient or the physician dies. "This plan represents the ideal patient-doctor relationship, which is so much talked about but so rarely found in practice."

The family doctor is the one, of course, who should be most competent and alert in these matters. The good practitioner in geriatrics and chronic disease must be able to "forsee, forestall, discover and treat" all of these difficulties, or at least know where to get them treated. It would appear that the physician competent to practice geriatrics and treat chronically ill patients emerge as "the supraspecialist," who knows much about many specialties and who can treat and likes to treat the patient as a whole. Here truly is a tremendously urgent and fruitful field, challenging to any clinician — one of the last frontiers of medicine.

Aviation Medicine Matures
Dr. Ralph N. Greene a Pioneer

There is wide public interest today in man's conquest of the air and the space that lies beyond. Many of the achievements in this jet and rocket age have been made possible by the research discoveries of aeromedical scientists. The story of these scientists, whose mission is as boundless as the skies they are exploring, is told in a timely and significant book just off the press in March. As related in "Doctors in the Sky" by Dr. Robert J. Benford, a veteran United States Air Force flight surgeon recently named editor of the Journal of Aviation Medicine, a new and important branch of modern medicine came into being a quarter of a century ago with the organization of the Aero Medical Association. From humble beginnings in 1929 this fledgling specialty society has grown in stature and influence until today it is an international organization whose roster includes the names of leading authorities in aviation medicine from many parts of the world.

The founder of the scientific society devoted to this specialty was Dr. Louis Hopewell Bauer, eminent medical statesman and physician who served as president of the American Medical Association in 1952 and is today the acknowledged international leader of the medical profession. A leader in aviation medicine before its importance was widely acknowledged and an outstanding military flight surgeon, Dr. Bauer organized the first

school of aviation medicine in this country and probably in the world, wrote the first textbook on the subject in the United States and established the earliest physical standards for the licensing of civilian aviators by the Department of Commerce. It follows naturally that he should become "the father" of the Aero Medical Association — in fact, "Mr. Aviation Medicine" himself.

Pioneering in aviation medicine along with Dr. Bauer was a past president of the Florida Medical Association, the late Dr. Ralph N. Greene Sr. of Jacksonville and Miami. At the first meeting of the Aero Medical Association in Detroit in October 1929, Dr. Bauer was elected president and Dr. Greene was the first named of five vice presidents elected. At the invitation of Eddie Stinson, Dr. Greene's old friend, many members of the new society visited the Stinson "Detroiter" airplane factory while there and were given a flight in the new Stinson plane. In 1931 Dr. Greene succeeded Dr. Bauer, becoming the second president of the association. He presided over the annual meeting at Cleveland in 1932 and was re-elected for a second term. His photograph, a biographic sketch and a summary of his contributions to aviation medicine appear in "Doctors in the Sky."

As early as 1917 Dr. Greene reported in the Military Surgeon some of his earliest experiences in aviation medicine when he used Stinson and himself as experimental subjects. Following his presidency of the Aero Medical Association, he published many valuable articles, often on the improvement of physical examining instruments, in the Journal of Aviation Medicine and elsewhere. He is generally credited with bringing aviation medicine to the American commercial airlines by the establishment of the medical department of Eastern Air Lines in 1936. As the first medical director of this line he campaigned vigorously for the passage of a federal law limiting airline pilots to 85 hours flying time per month. In recognition of his contribution to the establishment of this policy, he was made an honorary member of the Airline Pilots Association in 1939, the only physician in the United States ever to have been so honored by this group. In 1937 he served as chairman of the Committee on Safety in Aviation and Pilot Fatigue of the Aero Medical Association, and when this body came to Florida in 1939 to hold its annual meeting at Hollywood, he happily performed the many tasks which befall an arrangements committee chairman. He maintained his affiliation with the Air Corps as a colonel in the reserve, and actively engaged in flying until shortly before his death in Coral Gables in 1941.

The silver anniversary of the Aero Medical Association in 1954 marked the culmination of 25 years of remarkable achievements in aviation medicine. Recounting them all in his narrative history of a new and fascinating professional specialty, Dr. Benford has made of "Doctors in the Sky" a particularly valuable contribution to medical history. The book is reviewed in the Books Received section of this issue of The Journal.

A.M.A. Federal Medical Services Committee Holds Busy Session

A busy two day meeting of the Committee on Federal Medical Services of the American Medical Association was held in Chicago recently. The committee, headed by Dr. Louis M. Orr of Orlando, at an all day meeting the first day reviewed the steps already taken in implementing the profession's policy on veterans' medical care and discussed new approaches. Several reports are being revised, and a number of additional studies are scheduled. As soon as recently gathered data can be tabulated, a survey of the present status of the VA's Home Town Care program will be released to the states.

It was the decision of the committee to provide the states with material on other federal medical services also, in addition to the Veterans Administration program. In the planning stage now are reports on medical care in the Panama Canal Zone and in the Indian hospitals. These data will be released soon.

On the second day, a conference was held with more than 40 physicians from 22 states, many of whom were chairmen of state committees. To them Dr. Orr said, "The purpose of this meeting is to find out from you how we can help. What data should we collect, what does your society want us to do, what do you think should be the next step in this program?" Committee members acted as co-chairmen of discussion groups for part of this meeting. The group method made it possible for all delegates to bring their suggestions before the committee and to report on methods evolved to implement the A.M.A. policy in local societies.

The consensus was that the meeting was highly successful. Several delegates suggested that the conference be repeated at an early date.

Free Medical Care Adds Up

Every day of every week in every state of the nion physicians spend many an hour in clinics nd hospitals and on calls for which they receive o payment and expect none. While they neither eserve nor desire undue acclaim for this service, hese unpaid bills and freely-given hours nevertheless add up to lost income. Few surveys or studies have been made to determine the approximate dollar value of this free medical care and treatment. One investigator estimated a few years ago on the basis of a study he made that the average doctor devotes 12 per cent of his working hours to charity work.

Last March a state medical society reported on its inquiry into the subject of free medical care, which appears to be the most comprehensive study yet made. The New Hampshire Medical Society found in a survey conducted among general practitioners and specialists that somebody somewhere in New Hampshire gets $4 worth of free medical care and treatment every minute. The society placed the annual value of this free medical care at $2,096,640; or, expressed in another way, it amounts to $40,320 per week or $5,760 per day.

The society in a news release about its study said that "just about every practicing physician does some charity work. The scope of this depends upon the doctor's geographical location, the economic status of patients in his area, and the type of professional service rendered."

The survey indicated that on the basis of the present active membership of the New Hampshire Medical Society the average doctor in the state provides $3,425 worth of free medical care a year, slightly more than $65 weekly. That, of course, the average. For surgeons and specialists the ee care, measured in terms of dollars and cents, ould be substantially greater. Free surgery, at is, surgery for which the physician-surgeon ceives no payment or performs the work at a duced rate, may amount to $1,000 or more a onth, the study showed.

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Political 'Care' Versus Medical Care

The laity speaks up. The Dallas Morning News said it. Under the title of "Private Security" this newspaper recently published the following figures, not failing to add pertinent comment:

"Ninety-five of every 100 workers are now covered by some kind of private — not government — benefit program. This is not the brag of private business. It is a government figure.

"Nine of ten have life insurance. Eight of ten have hospital insurance, and more than half of those have surgical policies. Six of ten are covered for sickness and accident. Five of ten have medical care. Six of ten have their own company pension coverage.

"Yes, there is growing pressure in Washington for the Federal Government to get into the medical business. It makes just as much sense as the government going into the automobile business so that those who don't have a car can have one — at taxpayers' expense. That pressure is for political 'care,' not medical care."

International Social Security Dangers Discussed

The International Social Security Association, a subject of vital interest to American physicians, was discussed at some length in the February 19 news letter of the World Medical Association. In Europe the term "social security" differs from that in the United States. There it includes compulsory government and hospital insurance.

This masterful presentation of the socialistic dangers confronting physicians in the free countries of the world is made by Dr. Louis H. Bauer, the secretary-general of the World Medical Association, who turns for his information to the official publications of the International Social Security Association. Comments Dr. George F. Lull, the secretary of the American Medical Association, "I will wager that blood pressures will jump for most American physicians when they read Dr. Bauer's letter."

The following quotation, for example, highlights the philosophy of this association, which is one of the most dangerous organizations in existence today:

"The Committee of Experts, composed of representatives of 17 nations of Europe, Asia, and America, recognizing the need for cooperation with the doctors for public health and social progress, demanded of the medical profession that it

accept the principles of social security in order to adopt its work to the needs of modern society. Collaboration is possible only if the medical profession *adopts as its own,* the principles on which social security is based. These general principles *which must* be accepted by doctors *must be laid down by legislation."*

The World Medical Association, Dr. Bauer explained in his letter, has established liaison with certain international organizations and bodies in order to present to them the views of the medical profession.

A.M.A. Annual Meeting Atlantic City, June 6-10

The 1955 Annual Meeting of the American Medical Association will be held in Atlantic City, N. J., opening on June 6 and continuing through June 10. The nearly five full days of lectures, scientific and technical exhibits, and color and motion picture presentations offer physicians an unsurpassed opportunity for keeping abreast of the latest discoveries and developments in medicine. The center of activities of the convention will be in the Atlantic City Auditorium and adjacent hotels. The Traymore Hotel will be the headquarters hotel, where the House of Delegates will convene.

A report on the Salk poliomyelitis vaccine, scheduled for presentation at a meeting of the sections on pediatrics and preventive medicine, will be one of the many outstanding scientific features of the meeting. Others include a general discussion of resuscitation of the newborn infant for the sections on anesthesiology, diseases of the chest, general practice, obstetrics, and pediatrics; exhibit-symposiums on rheumatism and diabetes; and fracture and fresh pathology exhibits.

A new feature this year will be "Queries and Minor Notes," a project having the same relation to the meeting that the printed column of that name has to The Journal of the American Medical Association. Consultants from the various sections of the Scientific Assembly will be assigned for certain hours each day at a designated place in the Scientific Exhibit to confer with physicians concerning their particular problems and answer their questions about specific cases. Almost a hundred specialists in the different branches of medicine will be on duty at various times during the week. This addition to the program promises to be especially popular.

Throughout the week, the Air Force will demonstrate its "flying infirmary" on the beach in front of the Auditorium. Some 325 scientific exhibits and 350 technical exhibits will be on display. Surgical and clinical demonstrations on the color television program will be piped directly into the auditorium from Philadelphia hospitals. On Wednesday, June 8, the auditorium will be open exclusively for physicians during the morning hours.

Florida Association of Blood Banks Meets May 14-15, 1955

The annual meeting of The Florida Association of Blood Banks will be held at The Tides Hotel, Redington Beach, on May 14 and 15. A most excellent administrative and scientific program has been arranged. Lay speakers will be Quinn Jordan, Phoenix, Ariz., Executive Director of the Southwest Blood Banks, and Dorothy C. Smith, R.N., of Jacksonville, Executive Secretary of The Florida Association of Blood Banks and Administrator of the Jacksonville Blood Bank.

Physicians on the program will include Dr. Oscar B. Hunter Jr., Washington, D. C., Vice President of the American Association of Blood Banks; Dr. Lloyd Newhouser, Miami, Medical Director of The John Elliott Blood Bank of Dade County, who recently retired from the United States Navy, where he was in charge of its blood program; and Dr. Mario Stefanini, Boston, an internationally known research worker in blood coagulation, associated with Dr. Armand Quick and then with Dr. William Dameshek for several years. Others will be Dr. John McGraw, Bryn Mawr Hospital, Bryn Mawr, Pa., a distinguished pathologist, who was a vital member of the blood program of the United States Army during World War II; Dr. William Murphy Jr., now with Dade Reagents in Miami and formerly with The National Institute of Health, where he was engaged in inspecting blood banks in all parts of the country; and Dr. James J. Griffitts, Miami, Medical Director of the Dade County Blood Bank and President-Elect of the American Association of Blood Banks, who is recognized everywhere as one of the outstanding blood bank physicians.

The program schedule follows:

MAY 14, 1955

MORNING SESSION:

Moderator, Mrs. Mary Rand, Orlando

8:45 a.m. Registration
9:30 Invocation
9:35 Welcome, Clyde O. Anderson, M.D., President, Pinellas County Medical Society
9:40 Blood and Insurance Programs of Southwest Blood Banks, Quinn Jordan, Phoenix, Ariz.
10:20 Florida Blood Banks Clearing House — Brief Report of 15 Months Operation, Dorothy C. Smith, R.N., Jacksonville
Questions and Answers
11:00 Intermission
11:10 The Role of the American Association of Blood Banks in the Future of Blood Bankings, Oscar B. Hunter Jr., M.D., Washington, D.C., Vice President, American Association of Blood Banks
12:15 Luncheon

AFTERNOON SESSION

Moderator, David R. Murphey Jr., M.D., Tampa

2:00 p.m. Practical Consideration of Nuclear Energy Blasts, Lloyd Newhouser, M.D., Miami
2:45 Bleeding Problems Affecting Blood Banks, Mario Stefanini, M.D., Boston
3:30 Intermission
3:45 Transfusion Reactions, John J. McGraw, M.D., Bryn Mawr, Pa.
4:30 Avoidable Errors in Blood Transfusion, William Murphy Jr., M.D., Miami

MAY 15, 1955

MORNING SESSION

10:00 a.m. Blood Immunology Workshop, James J. Griffitts, M.D., Miami
10:00 Business Meeting

PRESIDENT McEWAN'S ADDRESS SCHEDULED FOR PUBLICATION IN JUNE ISSUE

Graduate Medical Education

Short Course
June 20-24, 1955

The Twenty-Third Annual Graduate Short Course for doctors of medicine, presented by the Department of Medicine of the Graduate School of the University of Florida, the Florida Medical Association, and the Florida State Board of Health, will be given this year on June 20-24 at the George Washington Hotel in Jacksonville. Except for last year and one previous year, all of the Short Courses have been held at approximately this time.

A special effort was made this year to have some of the previous lecturers return to present this course. Most favorably received in the past, these outstanding medical teachers undoubtedly will be enthusiastically received this year. The lectures on Medicine will be presented by Dr. Eugene A. Stead Jr., Professor of Medicine, Duke University School of Medicine, and Physician-in-Chief, Duke University Hospital, Durham, N. C. His lucid presentations dealing with the most recent advances in medicine will be of interest to internists as well as to general practitioners. Pediatrics will be given by Dr. Wilburt C. Davison, Dean and Professor of Pediatrics, Duke University School of Medicine, Durham, N. C. Dr. Davison is well known to practically every physician in Florida. His address before the Florida Medical Association at its annual meeting in 1954 was both scholarly and informative. His lectures will be most helpful to the pediatrician and the general practitioner.

Dr. Herman D. Kerman, Associate Professor of Radiology and Director of the Radioisotope Laboratory, University of Louisville School of Medicine, Louisville, Ky., will present information assisting all physicians in understanding the roentgenologist's interpretation of x-ray films and also will lecture on the latest research related to his particular field, in which he is highly qualified. Dr. William F. Rienhoff Jr., Associate Professor of Surgery and Instructor of Surgical Anatomy, The Johns Hopkins University School of Medicine, Baltimore, is also well known to the medical profession of Florida. His unique presentations always contain a fund of information valuable to the surgeon as well as the general practitioner. Dr. E. C. Hamblen, Professor of

Endocrinology and Associate Professor of Obstetrics and Gynecology, Duke University School of Medicine, Durham, N. C., will deliver the lectures on Gynecology. This is the third time in 23 years of presenting the Short Course that emphasis has been placed on endocrinology as it relates to gynecology. No one is better qualified to handle this particular subject than Dr. Hamblen, who has graciously made many sacrifices to return this year.

For the first time in presenting the program of the Short Course, summaries of all the lectures will be shown on the printed program to be mailed to each doctor in Florida by the State Board of Health. For instance, Dr. Stead summaries his lectures on Medicine as follows: "Treatment of Hypertension: The question of when to treat patients in the course of hypertensive vascular disease will be reviewed. The advantages and disadvantages of dietary, drug and surgical therapies will be discussed;" "Treatment of Chronic and Undiagnosed Illnesses: The problem of the relationship between doctor and patients in chronic illness and during periods of diagnostic uncertainty will be covered;" "Examinnation of the Autonomic Nervous System: The methods of history taking and physical examination in diseases of the autonomic nervous system will be covered. Clinical syndromes from such disorders will be presented;" "Fundus in General Practice: The things to be learned about systemic disease from examination of the eyegrounds will be stressed;" and "Minor Clinical Pearls: A running account of some of the highlights in diagnosis and therapy which have come to the attention of the author from the patients he has seen in the last few months."

Another innovation this year is the medical and surgical panels to be held on Tuesday and Friday afternoons. Many requests have been made for these panels, and the Committee believes they will be well attended and well received. The members of the panel are shown on the program.

A special feature this year is the dinner to be given on Wednesday evening. Invited guests are the President of the University of Florida, the Provost of the J. Hillis Miller Health Center and the Dean of the College of Medicine of the University of Florida, officers of the Florida Medical Association, and officers of the State Board of Health. Members of the Graduate Faculty of the Department of Medicine of the University of Florida will be urged to attend this dinner. In addition, any member of the Florida Medical Association, whether registered for the Short Course or not, desiring to attend the dinner will be welcome if he makes a dinner reservation in advance. The guest speaker as well as other speakers will be announced later.

The schedule for the Short Course appears on the opposite page.

Seminar on Psychiatry
June 16-18, 1955

Following the practice of the past several years, there will be a special Seminar held just prior to the week of the Short Course. This year the subject selected by the Committee on Medical Postgraduate Course is Psychiatry. The program planned and the lectures are designed not for the specialists in psychiatry but for all physicians practicing medicine in any field where human relationship is an important part of their professional work. Special stress both in the lectures and in the evening public meetings is being placed on alcoholism and child guidance.

The Faculty will consist of Dr. Hans Lowenbach, Professor of Psychiatry, Duke University School of Medicine, Durham, N. C., who gave the lectures on Psychiatry at the Short Course last year and was well received; Dr. Leo H. Bartemeier, Medical Director of The Seton Institute, Baltimore; and Dr. Virginia L. Clower, Staff Member of the Douglas A. Thom Child Guidance Clinic, Cambridge, Mass.

The course will begin at 10 a.m. on Thursday, June 16, at the George Washington Hotel in Jacksonville and will continue until noon on Saturday, June 18. Registration will begin at 9 a.m. on June 16, but all doctors who plan to attend this Seminar are urged to make advance registration. The fee has been materially reduced this year. The first evening program open to the public will be devoted to Child Guidance and will be handled by Dr. Lowenbach and Dr. Clower. The second evening program will be on Alcoholism and will be under the direction of Dr. Bartemeier and Dr. Lowenbach. Mr. Ernest A. Shepherd, Administrator of the State of Florida Alcoholic Rehabilitation Program, will be present at the Friday evening meeting and will bring the medical profession and lay audience up to date on the progress of the sanatorium at Avon Park.

SCHEDULE FOR SHORT COURSE

HOUR	Monday June 20	Tuesday June 21	Wednesday June 22	Thursday June 23	Friday June 24
8:00	**Registration**				
9:00	**Medicine** "Treatment of Hypertension" Dr. Stead	**Medicine** "Examination of the Autonomic Nervous System" Dr. Stead	**Roentgenology** "Supervoltage Radio therapy with a Cobalt 60 Unit" Dr. Kerman	**Surgery** "The Surgical Treatment of Diseases of the Lung" Dr. Rienhoff	**Gynecology** "Virilization Syndromes of the Pubescent and Adult Female" Dr. Hamblen
10:00	**Pediatrics** "The Evolution of Infant Feeding and the Advantages and Disadvantages of Soured Milk Mixtures" Dr. Davison	**Pediatrics** "Childhood Cancer" Dr. Davison	**Pediatrics** "Accidents and Poisoning" Dr. Davison	**Gynecology** "Amenorrhea Including Apubescence and Hypopubescence" Dr. Hamblen	**Surgery** "Surgical Treatment of Diseases of the Liver" Dr. Rienhoff
11:00	**Recess**	**Recess**	**Recess**	**Recess**	**Recess**
11:30	**Roentgenology** "Roentgenologic and Clinical Observations in the Diagnosis of Carcinoma of the Pancreas" Dr. Kerman	**Roentgenology** "Radioiodine in Thyroid Disease" Dr. Kerman	**Medicine** "Fundus in General Practice" Dr. Stead	**Surgery** "Surgical Treatment of Diseases of the Thyroid" Dr. Rienhoff	**Gynecology** "Endocrinological Factors in Female and Male Sterility" Dr. Hamblen
12:30	**Lunch**	**Lunch**	**Lunch**	**Lunch**	**Lunch**
2:00	**Pediatrics** "Child Health Care by General Practitioners and Pediatricians" Dr. Davison	**Pediatrics** "Diarrhea and Dysentery" Dr. Davison	**Pediatrics** "Nephritis and Nephrosis in Children" Dr. Davison	**Gynecology** "Functional Excesses of Uterine Bleeding" Dr. Hamblen	**Surgery** "Surgical Treatment of Diseases of the Gallbladder" Dr. Rienhoff
3:00	**Recess**	**Recess**	**Recess**	**Recess**	**Recess**
3:15	**Roentgenology** "Roentgenologic Features of Some Common Pediatric Problems" Dr. Kerman	**Medical Panel** Subject to be announced Moderator: Dr. Karl B. Hanson	**Medicine** "Minor Clinical Pearls" Dr. Stead	**Surgery** "Recent Development of Carcinoma of the Stomach" Dr. Rienhoff	**Surgical Panel** Subject to be announced Moderator: Dr. Edward Jelks
4:15	**Recess**		**Recess**	**Recess**	
4:30	**Medicine** "Treatment of Chronic and Undiagnosed Illnesses" Dr. Stead	Panel Members: Dr. Stead Dr. Davison Dr. Kerman Dr. George T. Harrell Jr.	**Roentgenology** "Therapeutic Uses of Radioisotopes" Dr. Kerman	**Gynecology** "Sexual Precocity in Female and Male" Dr. Hamblen	Panel Members: Dr. Reinhoff Dr. Hamblen Dr. C. Frank Chunn Dr. John D. Milton
5:30			Cocktail Hour and Dinner		

OTHERS ARE SAYING

One More Complaint Satisfied?

The barrage of criticism which has all but inundated the medical profession for the last two decades has included such heavy salvos as: "Not enough doctors" and the more sinister allegation "The doctors keep down the number of new doctors who are graduating, so as to limit competition."

Obviously, the first criticism stems from those who have found it hard to get a physician for night calls or house calls. Potentiating this personal disgruntlement is the everyday observation that there is, and has been, a maldistribution of physicians. For instance, a heavily populated area may have one physician for a few hundred, whereas a less congested area may have only one physician for several thousand citizens. The latter condition, moreover, usually is in sparsely settled areas which means that communication and transportation problems make matters worse. Of course, the second quote is merely a smooth sophistry, a lie. The practicing physicians in the United States have little or nothing to say about who gets into medical schools, how many graduate each year, or what they study. Perhaps these young graduates (and the whole medical profession) would be infinitely better off if *practicing physicians* did have something to say about these matters!

But now comes the real dope on this "doctor ratio" business. During the last year the ratio of physicians to population has reached a record, one physician for every 730 persons in the United States. This ratio will be lowered in the next few years because the record of 6,861 physicians in the 1953-54 crop will be exceeded in the next and succeeding years.

There will be 7,449 freshmen in the total of 28,227 medical students this year, the greatest number of medical students in history. Ten new four-year medical schools will be opened within the next few years, and despite all the detractors no one can honestly charge that the medical profession is holding back in this matter.

It is apparent that this phase of the problem is rapidly being solved, and we can only hope the second phase, maldistribution, will follow in due course.

—Missouri Medicine, November 1954

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"Medically approved" is the magic phrase in advertising today. Buy this relaxing chair: your doctor recommends it. Our brand of toilet paper is certified by leading dermatologists to be kind to your skin. So with cigaret holders which filter out the poison, air conditioners which control your climate, and background music which soothes your nerves. A triangular pillow is approved by neurologists as aiding relaxation and a mattress has been accoladed by orthopedists as leading to better posture. There is even a new seat cushion which interposes its foamy self between your ischial tuberosities and the seat of your chair. This too bears the unofficial approval of an anonymous and — just possibly — nonexistent doctor. So fashionable is this today, that only a reckless retailer would open a store without a physician-in-waiting to give his sanction to the shoes, cigarettes, scallions, and light bulbs which he might sell.

In a way it is a double tribute to the physician. A tribute first because it suggests that the layman does respect the opinions of his doctor. And a tribute in another way too: it would be so easy for the practitioner to wander slightly off the reservation and accept a fee for endorsing something. So easy, that it is heart-warming to note how few M.D.s really do it.

—The Journal of the Medical Society of New Jersey, November 1954

Striving for Our Ideal

In an anxious and broken world, marked by marvelous and awesome scientific progress, the physician should be the first to realize that science has no answer for the multiple longings and aspirations of the human spirit. Genuine interest in the patient as a person is more important now than in the days of our fathers. It is imperative that we perfect our tools in human relationships to the same point that we have perfected the tools of science, in order that we may enter into the minds of our patients with sympathy and understanding, without judgment or criticism, and in a spirit of true helpfulness.

To the modern physician, much has been given, and of him much is required. Great things are expected of him and little allowance is made for his shortcomings. As always in medicine, our ideal exceeds our performance. Perhaps this is fortunate, for only in striving for the ideal can we best serve those who seek our service, and also protect our heritage and deliver it to the coming generations of physicians in a continuity of past, present, and future.—*Paul F. Whitaker, M.D., in North Carolina Medical Journal.*

—*The Journal of the Indiana State Medical Association, February 1955*

Medical Officers Returned

Dr. Charles N. Stevens, who entered military service on July 4, 1952, was released from active duty on July 4, 1954 with the rank of first lieutenant, U. S. Army. His address is 510 W. Tennessee St., Ft. Myers.

Dr. Wayne B. Martin, who entered military service on Aug. 16, 1953, was released from active duty on Feb. 5, 1955 with the rank of first lieutenant, USNR. His address is 1502 Milan Ave., Coral Gables.

Dr. Peritz Scheinberg, who entered military service on Aug. 20, 1953, was released from active duty on Feb. 19, 1955 with the rank of lieutenant commander, U. S. Navy. His address is 1000 N. W. 17th St., Miami.

BIRTHS AND DEATHS

Dr. and Mrs. James G. Robertson of Miami announce the birth of a daughter, Kim Evelyn, on Feb. 18, 1955.

Dr. and Mrs. James H. Mendel Jr. of South Miami announce the birth of a son, Peter Allan, on Feb. 23, 1955.

Dr. and Mrs. George W. Robertson III of Miami announce the birth of a son, Thomas Harriman, on March 14, 1955.

Deaths — Members

Ward, Albert L., Port St. Joe..... March 27, 1955

NEW MEMBERS

The following doctors have joined the State Association through their respective county medical societies.

Abel, Bernard, Miami
Anderson, Oliver D., Hialeah
Arnold, Carl J. Jr., Cocoa
Atkinson, Sam C., Jacksonville
Binder, Charles I., Miami Beach
Carleton, Charles C., Apopka
Cason, M. Louise, Miami
Cook, James R., Orlando
Cusani, Benedict A., Miami
Daniel, Ben E., Titusville
Duckworth, Alda G., Orlando
Everts, William H., West Palm Beach
Gallagher, James F. Jr., Miami
Glassman, Jacob A., Miami
Haas, Stuart L., Miami
Hadden, Shirley L., Live Oak
Jensen, Louis C. Jr., Cocoa
Manrodt, Spencer C., Melbourne
Marr, Norval M. Jr., St. Petersburg
Massari, Frank A., Tampa
Parker, John H. Jr., Perry
Raborn, Robert E., Delray Beach
Reinartz, Paul V., Jacksonville
Rose, Eugene C. (Col.), St. Petersburg
Shaner, Harold J., Orlando
Sims, Murry, Coral Gables
Snider, Ross A., Jacksonville
Theodorou, George, Fort Pierce
Troutman, Erwin W., Miami
Wagner, Glen, Melbourne
Weible, David M., Clearwater
Williams, John E., Miami

STATE NEWS ITEMS

The fourth annual Symposium for General Practitioners on Tuberculosis and other Chronic Pulmonary Disease will be held in Saranac Lake, New York from July 11 to 15, 1955. It is approved for 26 hours of formal credit for members of the American Academy of General Practice. Sessions will be held in the various sanatoria, hospitals and laboratories in the Saranac Lake area. The faculty will consist of physicians, surgeons and scientists from Saranac Lake as well as guest lecturers. The registration fee for the Symposium is $40. Further information and copies of the program can be obtained by writing Dr. Richard P. Bellaire, General Chairman, Symposium for General Practitioners, P.O. Box 2, Saranac Lake, N. Y.

Dr. Donald H. Gahagen of Fort Lauderdale presided at the District Meeting of the American Cancer Society held in West Palm Beach on February 25.

Dr. M. Crego Smith of Clearwater entered medical service with the U. S. Air Force on Feb. 20, 1955.

Drs. Jack W. Fleming, Raymond B. Squires, John R. Emlet and John M. Packard of Pensacola and William J. Overman of Warrington spoke at the Second Biennial Cardiovascular Disease Institute at Sacred Heart Nurses Home on March 2. Dr. Fleming's subject was the prevention of heart disease and its complications; Dr. Squires spoke on recent advances in the treatment of heart disease, and Dr. Emlet's subject was "Surgical Treatment of Heart Disease." Drs. Packard and Overman served as moderators during question and answer periods.

Dr. G. Dekle Taylor of Jacksonville spoke at a meeting of the Laryngectomee Club on February 23.

Drs. William K. Barton and Leonard Freed of St. Petersburg were among the speakers at a cancer program, "Investment Day," held by the American Cancer Society Dressing Unit of Pasadena Community Church in February.

Dr. Walter F. Davey of Stuart has been named Martin County Health Officer to succeed Dr. Julian D. Parker.

Dr. Edward L. Cole Jr. of St. Petersburg spoke on February 21 to members of the Pinellas Association for Retarded Children on "Retarded Children and Their Problems."

Dr. William W. Schildecker of Daytona Beach spoke on cancer before the Seminole County Chapter of the American Cancer Society on February 21.

Dr. C. Frank Chunn of Tampa has been named Fleet Surgeon, and Dr. Thomas M. Edwards of Tampa, Fleet Captain, of the Tampa Yacht and Country Club.

Dr. James A. Craig of Naples has been elected president of the newly-formed Naples Clinical Society. Dr. Ethel H. Trygstad was chosen secretary.

Dr. Julius C. Davis of Quincy was elected vice president of the Southeastern Surgical Congress at the meeting in Atlanta in March.

Dr. Louis L. Amato of Fort Lauderdale spoke on "The Care of the Aged" before the Licensed Practical Nurses Association on March 3.

Dr. C. MacKenzie Brown of Tampa spoke on the prevention of anesthetic accidents before the Licensed Practical Nurses' Association of that city on March 11.

Dr. J. Brooks Brown of Jacksonville is working with the business and professional division of the 1955 Cancer Crusade in Duval County.

Dr. Charles F. Biggane Jr. of North Miami spoke before a meeting of the Miami Shores Business and Professional Women's Club on March 3.

Dr. H. Phillip Hampton of Tampa spoke on "Weight Control Is Important" at a public nutrition program presented on March 1.

In a Today's Health gift subscription contest designated "Operation Christmas," one of four awards presented to local woman's auxiliary groups throughout the country was won by a Florida society. The Woman's Auxiliary to the Dade County Medical Association received the award in the group having 100 members or over. The contest was sponsored by the Woman's Auxiliary to the American Medical Association. Mrs. Richard F. Stover of Miami is national Today's Health chairman.

Dr. John M. Packard of Pensacola spoke on the heart at a meeting of the Pensacola Civitan Club in February.

Dr. Nathan L. Marcus of Tampa was moderator for a group discussion which followed the previewing by local physicians of a tape recording of the sound of the human heartbeat.

Dr. Herman Selinsky of Miami spoke at the third anniversary celebration of the Bal Harbour chapter of Alcoholics Anonymous on February 28.

Dr. George P. Beach of Daytona Beach spoke on cerebral palsy before the Volusia County Parents Association for Physically Handicapped Children on February 28.

The Florida Trudeau Society, the medical branch of the Florida Tuberculosis and Health Association, will hold its annual meeting at the McAllister Hotel in Miami on May 13 and 14, 1955. The first session opens at 2 p.m. on Friday, May 13, with Dr. Lawrence C. Manni, President, of Tallahassee, presiding. Dr. Harold W. Johnston, Vice President, of Orlando, will preside at the second session, opening at 8:30 on Saturday morning, with adjournment of the meeting scheduled for noon. The secretary of the society is Dr. Simon D. Doff of Jacksonville.

The opening address on Friday afternoon, entitled "Adenomas of the Bronchus," will be presented by Captain C. F. Storey, MC, USN, Chief of Surgery, U. S. Naval Hospital, Portsmouth, Va. A panel discussion on "Pathology and Pathogenesis of Pulmonary Tuberculosis, Its Relation to Treatment and Prognosis" will open the program Saturday morning. The moderator will be Dr. David Smith, Duke University School of Medicine, Durham, N. C., and the panelists will be Dr. Julius L. Wilson, Director of Medical Education, American Trudeau Society, New York; Captain Storey; Dr. Benjamin L. Brock, Medical Director, Central Florida Tuberculosis Hospital, Orlando; and Dr. William L. Potts, Medical Director, Southeast Florida Tuberculosis Hospital, Lantana. In addition, 11 Florida essayists have places on the program, including Dr. George T. Harrell Jr., Dean of the College of Medicine, University of Florida, Gainesville.

June 6 through 10, the dates set for the 1955 Annual Meeting of the American Medical Association, are only a month away. This annual gathering will be held at Atlantic City, N. J., a site which now, as on past occasions, provides a most satisfactory meeting place. Florida physicians who plan to attend will find it to their advantage to make their hotel reservations early and receive an Advance Registration Card by mail. All registrations are to be cleared by the Local Subcommittee on Hotels, and those who register well in advance of the meeting will be assured of suitable accommodations.

Dr. Joseph W. Eversole of Jacksonville gave a paper on "The Practical Application of Histochemistry to Surgery" at the meeting of the Southeastern Surgical Congress held in Atlanta in February.

Dr. Gordon H. Ira of Jacksonville is taking a five week postgraduate medical clinical tour of Europe. He will attend medical meetings and clinics in France, Italy, Germany, Denmark, Sweden and England.

Dr. O. E. Harrell of Jacksonville has been named vice president of the City Planning Advisory Board.

Dr. Clarence M. Sharp spoke on the work of health departments in the field of tuberculosis at the Florida Conference of Tuberculosis Workers held in Gainesville in February.

Dr. Sharp also spoke on tuberculosis at a recent meeting of the Virginia Tuberculosis Association held in Richmond.

Dr. Gary E. Turner of Jacksonville took part in a panel discussion on "Why Some Children Become Delinquents" at the February meeting of the Springfield Park School P.-T.A.

Dr. Sidney Storch of Jacksonville has returned to his practice after a week at the Department of Internal Medicine, Division of Graduate Training of Tulane University of Louisiana School of Medicine.

Dr. Turner Z. Cason of Jacksonville spoke on "Diseases of the Heart" at a March meeting of the Zonta Club.

Dr. Cason also spoke before the March meeting of the Duval Medical Center Auxiliary. His subject was the work of the outpatient department.

At the second biennial Cardiovascular Disease Institute for Nurses held in March in Jacksonville, Dr. Roy M. Baker spoke on "Prevention of Heart Disease and its Complications;" Dr. James E. Cousar III spoke on "Surgical Treatment of Heart Disease and its Complications;" Dr. James talk on "Diagnosis and Medical Treatment of Cardiovascular Disease;" and Dr. A. Sherrod Morrow talked on "The Dietary Control of Cardiovascular Disease." Drs. Turner Z. Cason and Karl B. Hanson were moderators of panel discussions.

In Viewing the VA Medical Program . . .

we are not talking about...

1. VA Form 10-P-10
2. Ability of veterans to pay
3. Efficiency of VA Administration
4. Extent of abuse

The medical profession is not concerned with alleged maladministration of present legislation by the Veterans Administration or with abuses by veteran-applicants of the hospital and medical care privileges. The nation's physicians do not feel that they have the responsibility to police the veterans medical care program, although they have cooperated wholeheartedly in assuring that veterans hospitalized under the present VA laws receive the highest quality of medical care.

Dr. Thad Moseley of Jacksonville gave the first of a two part course sponsored by the Civilian Defense Council. The subject was rational conduct in the face of an emergency.

Dr. Simon D. Doff of Jacksonville spoke on tuberculosis at an Alabama Tuberculosis Conference held in Birmingham recently.

Dr. George M. Stubbs of Jacksonville has been elected first vice president of the Jacksonville Emory Alumni Association.

Dr. Philip L. Smoak of Tampa was elected commander of the Tampa Power Squadron at a meeting held March 3 at the Davis Islands Yacht Club.

Dr. Lucien Y. Dyrenforth of Jacksonville attended his twenty-fifth medical class reunion at Emory University recently.

Dr. William Y. Sayad of West Palm Beach, Dr. W. Jerome Knauer Sr. of Jacksonville, and Drs. Sherman B. Forbes and Hugh E. Parsons of Tampa attended the Fifteenth Clinical Meeting of the Wilmer Residents Association, The Wilmer Ophthalmological Institute, The Johns Hopkins Hospital and University, held in Baltimore on March 30 and April 1 and 2.

WANTED — FOR SALE

Advertising rates for this column are $5.00 per insertion for ads of 25 words or less. Add 20c for each additional word.

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3. The Rotation (swivel chair) Test. *The patient sits in a swivel chair with his eyes closed and his head on a level plane. The chair is turned through ten complete revolutions in twenty seconds. Stimulation of a normal labyrinth will cause nystagmus, past pointing of the arms and subjective vertigo.*

Notes on the Diagnosis and Management of "Dizziness"

I. Vertigo

The term "dizziness" (vertigo) should be restricted to the sensation of whirling or a sense of motion.[1] This sensation is usually of organic origin and is the tangible symptom of a specific pathology.

Moderate vertigo, with a sense of motion and a whirling sensation, may be produced by infection, trauma or allergy of the external or middle ear. Examination of the ear will usually disclose the abnormality.

Severe vertigo, which will not permit the patient to stand and causes nausea and vomiting, indicates an irritation or destruction of the labyrinth. The specific condition may be labyrinthine hydrops, an acute toxic infection, hemorrhage or venospasm of the labyrinth or a fracture of the labyrinth. Multiple sclerosis and pathology of the brain stem should be considered also.

It is important to learn if the patient's sensation is continuous or paroxysmal.[2] Paroxysmal vertigo suggests specific conditions: Ménière's syndrome, cardiac disease and epilepsy. Continuous vertigo without a pattern may be due to severe anemia, posterior fossa tumor or eye muscle imbalance.

Dramamine® has been found invaluable in many of these conditions. In mild or moderate vertigo it often allows the patient to remain ambulatory. A most satisfactory treatment regimen for severe "dizziness" is bedrest, mild sedation and the regular administration of Dramamine.

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Dramamine (brand of dimenhydrinate) is supplied in tablets (50 mg.) and liquid (12.5 mg. in each 4 cc.). G. D. Searle & Co., Research in the Service of Medicine.

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1. Swartout, R., III, and Gunther, K.: "Dizziness:" Vertigo and Syncope, GP *8*:35 (Nov.) 1953.

2. DeWeese, D. D.: Symposium: Medical Management of Dizziness: The Importance of Accurate Diagnosis, Tr. Am. Acad. Ophth. *58*:694 (Sept.-Oct.) 1954.

SEARLE

COMPONENT SOCIETY NOTES

Dade

At the regular meeting of the Dade County Medical Association on April 14, Dr. Walter W. Sackett Jr. gave a paper on "Responsibility of the Personal Physician as the Cancer Detection Clinic of Today;" and Dr. Richard C. Clay spoke on "How the American Cancer Society Helps the Dade County Physician in the Care of Cancer Patients."

Duval

At the regular monthly meeting of the Duval County Medical Society on March 1, Dr. Philip M. Stimson of New York, professor of clinical pediatrics at Cornell University Medical College, spoke on "Recent Advances in Poliomyelitis."

At the meeting on March 29, Drs. Phillip W. Horn, Simon D. Doff, Augustus E. Anderson Jr. and Clarence M. Sharp took part in a symposium on "Recent Advances in Medical Chest Diseases."

Escambia

Dr. George T. Harrell Jr. of Gainesville, dean of the School of Medicine of the University of Florida, was guest speaker at the regular monthly meeting of the Escambia County Medical Society on March 8. His subject was "Sodium and Potassium."

Hillsborough

At the regular meeting of the Hillsborough County Medical Association on April 12, Dr. James F. Lyons of Coral Gables spoke on "A New Method for Treating Peripheral Vascular Diseases."

Lake

The regular monthly meeting of the Lake County Medical Society was held at Howey-in-the Hills on March 2. Dr. Henry L. Harrell of Ocala spoke on "Cancer of the Breast."

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Monroe

Dr. Waltman Walters, professor of surgery at the University of Minnesota Medical School and a member of the staff of the Mayo Clinic, spoke on March 3 at a joint meeting of the Monroe County Medical Society and the staff of the Naval Hospital. Dr. Walters' subject was "Peptic Ulcers."

Palm Beach

At the regular monthly meeting of the Palm Beach County Medical Society on February 28, Dr. James Barrett Brown, professor of clinical surgery, Washington University School of Medicine, St. Louis, was guest speaker. His subject was "Plastic Surgery."

Index for Volume XLI
Scheduled for Publication
June Issue

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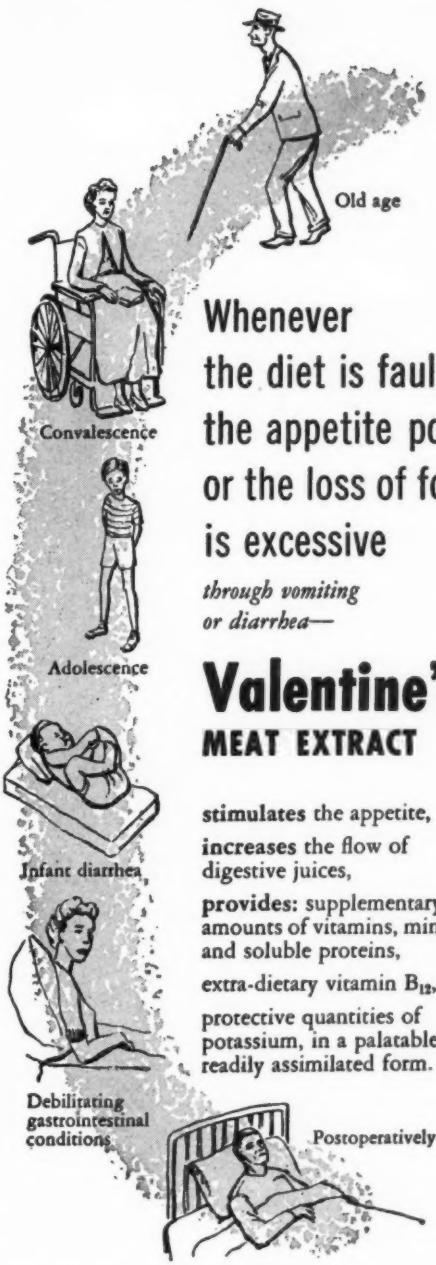

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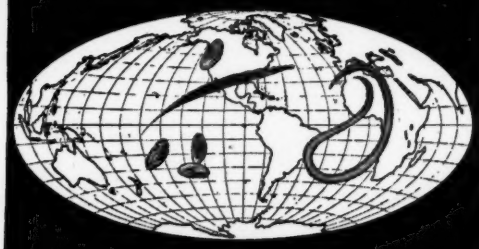

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OBITUARIES

Dorothy Jane Speers

Dr. Dorothy Jane Speers died at her home in Titusville on Jan. 4, 1955. She was 32 years of age.

The daughter of Mr. and Mrs. Frank E. Nodine of Clearwater, Dr. Speers was born at Titusville, Pa., on Jan. 10, 1922. She received her academic training at Florida State University and was awarded the degree of Doctor of Medicine by Columbia University College of Physicians and Surgeons in New York in 1949. She was a member of Phi Beta Kappa.

Upon graduation, she entered the general practice of medicine in Titusville, where she became a leader in professional circles and civic affairs. She was the wife of Dr. James F. Speers, Director of the Brevard County Health Department. Recently, she established a clinic in Titusville and limited her practice to obstetrics. In addition, she headed a drive to secure pledges for the building of a hospital there. She was also active in the First Presbyterian Church.

Dr. Speers was a member of the Brevard County Medical Society, the Florida Medical Association and the American Medical Association. She also held membership in the American Academy of General Practice.

In addition to her husband and her parents, Dr. Speers is survived by a son, David Allen Speers; one sister, Mrs. Julian Mawhinney, of Clearwater; and three brothers, William E. Nodine, of Clearwater, Dr. John Nodine, of Philadelphia, and Robert H. Nodine, of New Haven, Conn.

Orin Ross Yost

Dr. Orin Ross Yost of Ormond Beach died at his home of a heart ailment on Jan. 23, 1955. He was 49 years of age.

Born in Kimball, W. Va., in 1906, Dr. Yost received the degree of Doctor of Medicine from the Medical College of Virginia in 1930. He served an internship in neurology at St. Elizabeth's Hospital in Washington, D. C., and a medical internship at Pilgrim Hospital in Long Island. Later he taught psychiatry at Columbia University and was a staff member of the Vanderbilt Clinic and Institute of Living at Hartford,

Conn. During World War II he served from 1941 to 1945 as assistant chief of neuropsychiatry at Fort Jackson, S. C., and at Lawson General Hospital. After his military discharge he was superintendent of the Weston State Hospital in West Virginia until 1946. About 1946 he organized the Edgewood Sanitarium at Aiken, S. C., and later moved it to Orangeburg, S. C. Since that time he had served as its medical director. While active in South Carolina, he was voted an honorary life member in the State Junior Chamber of Commerce in recognition of his distinguished service.

This noted psychiatrist was the author of "What You Should Know About Mental Health" and "The Bane of Drug Addiction," both published in 1954. He was also a widely known lecturer on mental health.

Dr. Yost first made his home in Florida in 1949, locating at Ormond Beach. He suffered a heart attack there in 1952 and afterward lived in semiretirement until he gave up his practice last October. He was a consultant in psychiatry at Halifax District Hospital in Daytona Beach. A member of the Ormond Beach Rotary Club, he was also a member of the BPOE Lodge 1141 of Daytona Beach. He attended Tourist Church.

Licensed to practice medicine in Florida since January 1954, Dr. Yost was a member of the Volusia County Medical Society and the Florida Medical Association. He also held membership in the American Medical Association. A fellow of the American Psychiatric Association, he was a past president of the Southeastern Society of Neurology and Psychiatry. In addition, he served as an affiliate of the National Committee on Cooperation With Lay Groups for the promotion of National Mental Health Week.

Dr. Yost is survived by his widow, Mrs. Edith Yost; two sons, Lyle Yost and Orin Yost Jr., and one daughter, Miss Patricia Yost, all of Ormond Beach; two brothers, Carl Yost, of New York City, and Fred Yost, of Alexandria, Va.; and two grandchildren.

William Miller Stinson

Dr. William Miller Stinson of Jacksonville died in an Asheville, N. C., hospital on Oct. 24, 1954. He was 81 years of age.

A native of Mississippi, Dr. Stinson was born in Canton in 1873. He received his medical training in Tennessee and was awarded the degree of Doctor of Medicine by the Memphis Hospital

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Bumbalo, T. S., Gustina, F. J., and Oleksiak, R. E.: J. Pediat. 44:386, 1954.

White, R. H. R., and Standen, O. D.: Brit. M. J. 2:755, 1953.

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"Ninety per cent of the children passed all of their ascarides . . ."

Brown, H. W.: J. Pediat. 45:419, 1954.

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Medical College in 1900. He then came to Jacksonville and in 1902 was licensed to practice medicine in Florida.

During World War I Dr. Stinson served in the United States Army Medical Corps. He continued in military service for many years and upon retirement returned to Jacksonville to live. He was active in civic affairs and was a member of the Timuquana Country Club and the Presbyterian Church. At one time he was Florida state golf champion.

Dr. Stinson was a member of the Duval County Medical Society and had held honorary membership for five years. He became a member of the Florida Medical Association in 1904. Also, he for many years was a member of the American Medical Association.

His first wife, Mrs. May A. Stinson, died in 1940. He later married Mrs. Flora N. Doe, who survives him. A sister, Mrs. Margaret Stinson Yeargain, of Jacksonville, also survives.

Lowell Sinn Selling

Dr. Lowell Sinn Selling of Orlando and Winter Park died at the Orange Memorial Hospital in Orlando on Jan. 18, 1955. He suffered a heart attack two days after breaking a hip in a fall. He was 52 years of age.

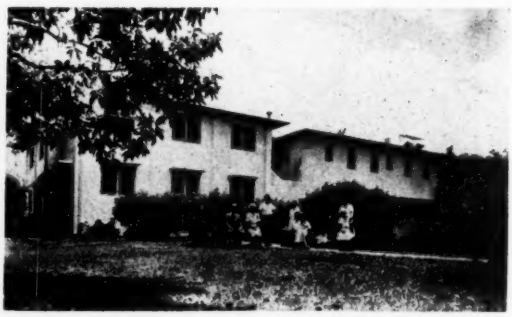
A native of Michigan, Dr. Selling was born in Detroit on March 17, 1902. He attended the University of Michigan, Columbia University, and New York University and was awarded seven degrees, including M.D., Ph.D., and Dr.P.H. In 1928 he received his medical degree from Bellevue Hospital Medical College and then served a residency there, specializing in psychiatry.

From 1934 until 1944, Dr. Selling was Director of the Recorders' Court Clinic in Detroit. In 1947 he came to Florida to direct the mental health program for the Florida State Board of Health and from 1948 to 1950 served as acting director of the Bureau of Maternal and Child Health. During that period he also served as psychiatric consultant for Florida State University and acting director of the Orange County Health Unit guidance clinics. In 1948 he entered private practice in Orlando.

This distinguished psychiatrist was the author of seven widely read books, including "Men Against Madness" and "Synopsis of Neuropsychiatry." In addition, he had more than 100 articles published in medical journals.

Dr. Selling was a member of the Orange County Medical Society, the Florida Medical Association and the American Medical Association. He was a fellow of the American College of Physicians. A member of the American Board of Psychiatry and Neurology, he also held membership on the American Board of Examiners in Professional Psychology. He was chairman-elect of the Psychiatric Section of the Academy of Forensic Sciences and was to take office in February. He had held every office in the Medical Correctional Association, an association which endeavors to improve prison conditions.

Surviving are the widow, the former Mary Paradis; a son, Fred Selling, of Detroit; and a son, Bernard B. Selling, and a daughter, Mary Lee Selling, both of Winter Park.



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BOOKS RECEIVED

Doctors in the Sky, The Story of the Aero Medical Association. By Robert J. Benford, M.D. Pp. 327. Price, $8.75. Springfield, Ill., Charles C. Thomas, Publisher, 1955.

This narrative history of the Aero Medical Association tells how and why the society was founded, and traces its growth from the initial small group of 35 physicians in 1929 to the prominent international organization it has become today, including among its members the leading authorities in aviation medicine from many parts of the world. It is a fitting tribute to Dr. Louis H. Bauer, the founder and first president. Here is a factual, well conceived account in excellent popular and historical perspective which covers the development of the Journal of Aviation Medicine, the establishment of the Lyster, Longacre and Tuttle Awards, the rise of airline and civilian aviation medicine, and the attainment of certification. It describes the 25 annual meetings of the Aero Medical Association, the notable scientific presentations, and the achievements of the organization whereby it has broadened the horizons of aeronautical knowledge, contributed immeasurably to safety in flying, and cemented a strong alliance between medicine and aeronautics.

This airborne saga of aviation medicine is the story that members of the association and flight surgeons have lived in the air, on the flight line, and in the laboratory. The important role of the late Dr. Ralph N. Greene Sr., of Jacksonville and Miami, the organization's second president, is recounted in some detail. There are chapters on CAA and airline medicine, the twenty-fifth annual meeting, the struggle for specialty recognition, awards and traditions, and the Wives' Wing together with lists of officers and fellows, biographic sketches of the presidents and a wealth of additional information not previously assembled in one volume. The author is a veteran United States Air Force flight surgeon, who has recently been named editor of the Journal of Aviation Medicine.

The Medical Care of the Aged and Chronically Ill. By Freddy Homburger, M.D. Pp. 253. Price, $5.75. Boston, Little, Brown and Company, 1955.

Off the press in mid-March, this book is intended for practitioners, medical students, nurses and intelligent laymen who face the many problems created by chronic illness and by the varying needs of aged and debilitated patients.

Today the number of those who become old and finally ill and debilitated increases steadily, as medical progress saves lives of countless patients who in days past would have fallen victim to infectious diseases and other disorders which physicians have learned to control. There are millions of patients with long-lasting, poorly understood diseases and with crippling disabilities, whose care requires special skills and concern not only with the disease but with the patient's personal problems.

This book provides practical guidance for the handling of these special situations, which are given little attention in the curriculums of medical schools and which present irksome problems for those who have to meet them and cope with them in day-to-day practice. It will save untold hours of library work for physicians who wish to bring themselves up to date on recent advances in the management of chronic illness. Also, in many instances

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more potent
than other corticosteroids
lessened incidence
of sodium retention
and potassium depletion
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it will provide physicians, nurses and families with the key to successful handling of patients, which may mean the difference between a hopeless and useless existence and rehabilitation to a useful and far more tolerable life.

The author, born and educated in Switzerland, has been Research Professor of Medicine at Tufts College Medical School in Boston since 1948 and is well known as the organizer and director of the Cancer Research and Cancer Control Unit there. He has published many scientific articles and is the senior editor of the monumental treatise The Physiopathology of Cancer. A teacher of renown, he has taught at Yale University School of Medicine, Harvard Medical School, Cornell University Medical College, and the Memorial Center for Cancer and Allied Diseases in New York.

The Adolescent Exceptional Child, a Realistic Approach to Treatment and Training. Proceedings of the 1954 Spring Conference of the Child Research Clinic of The Woods Schools. Pp. 80.

This pamphlet is the report of a conference held in New Orleans last year by The Woods Schools, a nonprofit residential school for exceptional children in Langhorne, Pa., in cooperation with the Tulane University of Louisiana School of Medicine, the Louisiana Association for Retarded Children, and others. The subjects discussed are diagnosis, treatment and training of the retarded child, with emphasis on vocational training. The object of the conference was to exchange information and discuss ways to help the retarded child depend on his own resources and skills in adult life. The talks of the speakers are given in full. A section of the pamphlet is devoted to a panel discussion on occupational placement of the retarded child from the parent, teacher and professional points of view. Copies of the pamphlet are available without charge from the Child Research Clinic of The Woods Schools, Langhorne, Pa.

Reproductive System. Volume 2 of the Ciba Collection of Medical Illustrations. Prepared by Frank H Netter, M.D. Edited by Ernst Oppenheimer, M.D. Pp 302. Price, $13.00. Summit, N. J., Ciba Pharmaceutical Products, Inc.

Volume 2 of the Ciba Collection of Medical Illustrations is a remarkable compilation of paintings on the normal and pathologic anatomy of both the male and the female reproductive systems. The reception accorded Volume 1 of this series, issued last year and entitled "Nervous System," has made reprinting urgent and bespeaks like interest for this second volume in Ciba's project of portraying in desirable details the major anatomy and pathology of all the systems comprising the human organism, devoting a separate volume to each system. The medical profession in the United States has become well acquainted with the superior excellence of the illustrative talent of Dr. Netter, the senior author of both of these volumes.

Of the 233 plates presenting a virtually complete pictorial story of the structure and disorders of the human reproductive system, 89 appear in print for the first time in this book. The other 144 plates were published previously in Ciba Clinical Symposia or in special folders or brochures over a period of 11 years, all of which have been carefully checked for corrections according to the most modern concepts. Interestingly, 75 per cent of the pages handsomely portray pathology of both primary and secondary male and female sex organs; that is, disorders in their form and function. This visual and verbal description of pathologic conditions has considerable clinical value and also aids effectively the acquisition of the physiologic knowledge so badly needed. The books of this series are offered as a nonprofit service to the medical profession and are sold at the cost of publication and distribution.

(Continued on page 979)

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and potassium depletion
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SCHEDULE OF MEETINGS

ORGANIZATION	PRESIDENT	SECRETARY	ANNUAL MEETING
Florida Medical Association	John D. Milton, Miami	Samuel M. Day, Jacksonville	Miami Beach, May 13-16, '56
Florida Medical Districts	Ralph W. Jack, Miami	Council Chairman	
A-Northwest	William P. Hixon, Pensacola	Walter J. Baker, Foley	Pensacola
B-Northeast	Henry J. Babers Jr., Gainesville	Charles L. Park Sr., Sanford	Gainesville
C-Southwest	C. Frank Chunn, Tampa	James R. Boulware Jr., Lakeland	Lakeland
D-Southeast	James R. Sory, West Palm Beach	Ralph S. Sappenfield, Miami	Fort Lauderdale
Florida Specialty Societies			
Academy of General Practice	Frank T. Linz, Tampa	James B. Hodge Jr., Tampa	
Allergy Society	W. Ambrose McGee, W. P. Bch.	Norris M. Beasley, Ft. Lauderdale	
Anesthesiologists, Soc. of	Wayland T. Coppedge Jr., Jax.	William H. Houston, Jacksonville	
Chest Phys., Am. Coll., Fla. Chap.	Hawley W. Seiler, Tampa	William L. Potts, Lantana	
Derm. and Syph., Assn. of			
Health Officers' Society	Clarence L. Brumback, W. P. Bch.	Lorenzo L. Parks, Jacksonville	
Industrial and Railway Surgeons	Frank L. Fort, Jacksonville	John H. Mitchell, Jacksonville	
Neurology & Psychiatry	Edward H. Williams, Miami	J. Robert Campbell, Tampa	
Ob. and Gynec. Society	J. Champneys Taylor, Jacksonville	Reuben B. Chrisman Jr., Miami	
Ophthal. & Otol., Soc. of	Charles W. Boyd, Jacksonville	Kenneth S. Whitmer, Miami	
Orthopedic Society	Edward W. Cullipher, Miami	Robert P. Keiser, Coral Gables	
Pathologists, Society of	Millard B. White, Sarasota	Wray D. Storey, Tampa	
Pediatric Society	Wesley S. Nock, Coral Gables	Joel V. McCall Jr., Daytona Beach	
Proctologic Society			
Radiological Society	Hugh G. Reaves, Sarasota	Donald H. Gahagen, Ft. Lauderdale	
Surgeons, Am. Coll., Fla. Chapter	Joseph S. Stewart, Miami	C. Frank Chunn, Tampa	
Urological Society	David W. Goddard, Daytona Bch.	W. Dotson Wells, Fort Lauderdale	
Florida—			
Basic Science Exam. Board	Mr. Paul A. Vestal, Winter Park	M. W. Emmel, D.V.M., Gainesville	Gainesville, May 14, '55
Blood Banks, Association	John T. Stage, Jacksonville	John B. Ross, Jacksonville	St. Petersburg, 1955
Blue Cross of Florida, Inc.	Mr. C. Dewitt Miller, Orlando	Mr. H. A. Schroder, Jacksonville	
Blue Shield of Florida, Inc.	David R. Murphey Jr., Tampa	Jack O. W. Rash, Miami	
Cancer Council	Ashbel C. Williams, Jacksonville	Lorenzo L. Parks, Jacksonville	
Clinical Diabetes Assn.	Sidney Davidson, Lake Worth	Edward R. Smith, Jacksonville	Daytona Beach, Oct. 20-21, '55
Dental Society, State	Robt. Thoburn, D.D.S., Daytona Bch	J. E. Edwards, D.D.S., Coral Gables	
Heart Association	Alvin E. Murphy, Palm Beach	Daniel R. Usdin, Jacksonville	
Hospital Association	Mr. Pat N. Groner, Pensacola	Mr. Steve F. McCrimmon, C. Gbls.	St. Petersburg, Nov. 16-18, '55
Medical Examining Board	Frank D. Gray, Orlando	Homer L. Pearson Jr., Miami	
Medical Postgraduate Course	Turner Z. Cason, Jacksonville	Chairman	Jacksonville, June 20-24, '55
Nurse Anesthetists, Fla. Assn.	Miss Dorothy Jackson, C. Gables	Mrs. Lalla F. Bryan, Miami	St. Petersburg, Dec. 6-8, '55
Nurses Association, State	Martha Wolfe, R.N., Coral Gables	Agnes Anderson, R.N., Orlando	Daytona Beach, Nov. 28-30 '55
Pharmaceutical Association, State	Mr. J. L. McDonald, St. Augustine	Mr. R. Q. Richards, Ft. Myers	Clearwater, May 23-25, '55
Public Health Association	Mr. J. A. Mulrennan, Jacksonville	Mr. Fred B. Ragland, Jacksonville	Daytona Beach, Oct. 20-22, '55
Trudeau Society	Lawrence C. Manni, Tallahassee	Simon D. Doff, Jacksonville	Miami, May 12-14, '55
Tuberculosis & Health Assn.	Judge Ernest E. Mason, Pensacola	Mrs. W. J. Norton, Sarasota	Miami, May 12-14, '55
Woman's Auxiliary	Mrs. Richard F. Stover, Miami	Mrs. S. J. Wilson, Ft. Lauderdale	
American Medical Association	Edward J. McCormick, Toledo, O.	Geo. F. Lull, Chicago	Atlantic City, June 6-10, '55
A.M.A. Clinical Session	Edward J. McCormick, Toledo, O.	Geo. F. Lull, Chicago	Boston, Nov. 29-Dec. 2, '55
Southern Medical Association	Robt. L. Sanders, Memphis, Tenn.	Mr. V. O. Foster, Birmingham	Houston, Nov. 14-17, '55
Alabama Medical Association	J. M. Donald, Birmingham	Douglas L. Cannon, Montgomery	
Georgia Medical Assn. of	Peter B. Wright, Augusta	David Henry Poer, Atlanta	Augusta, May 1-4, '55
S. E. Hospital Conference	Mr. John W. Gill, Vicksburg, Miss.	Mr. Pat Groner, Pensacola	
Southeastern Allergy Assn.	Ben Miller, Columbia, S. C.	Kath. B. MacInnis, Columbia, S. C.	Charlotte, N. C., Oct. '56
Southeastern Am. Urological Assn.	Sidney Smith, Raleigh, N. C.	Robert F. Sharp, New Orleans	Hollywood, Mar. 25-29, '56
Southeastern Surgical Congress	Donald S. Daniel, Richmond	B. T. Beasley, Atlanta	Richmond, Mar. 12-15, '56
Gulf Coast Clinical Society	Walter C. Payne Sr., Pensacola	Barkley Beidleman, Pensacola	Pensacola, Oct. 27-28, 1955

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County Medical Societies of Florida

SOCIETY	PRESIDENT	SECRETARY	Meeting Date	Total Members
Alachua	Edwin H. Andrews, Gainesville	Henry S. Blank, Gainesville	2nd Tues.	56
Bay **Bradford, Gilchrist, Union*	William F. Humphreys Jr., Panama City	Roderick C. Webb, Panama City	1st Tues.	26
Brevard	Lee Rogers Jr., Cocoa	Charles E. Russell, Cocoa	2nd Tues.	33
Broward	Ernest E. Serrano, Hollywood	Alfred E. Cronkite, Fort Lauderdale	4th Tues.	120
Columbia **Baker, Hamilton*	Robert B. Harkness, Lake City	Thomas H. Bates, Lake City	1st Mon.	11
Dade	L. Washington Dowlen, Miami	Robert F. Dickey, Miami	1st Tues	715
De-Soto-Hardee-Highlands-Glades	Gordon H. McSwain, Arcadia	Harold S. Agnew, Arcadia	1st Tues.	28
Duval **Clay*	Raymond H. King, Jacksonville	Eugene M. Frame, Jacksonville	1st Tues.	294
Escambia **Santa Rosa*	George W. Morse, Pensacola	Paul F. Baranco, Pensacola	2nd Tues.	107
Franklin-Gulf	Warren T. Weathington, Apalachicola	Joseph P. Hendrix, Port St. Joe	Last Wed.	6
Hillsborough	Frank S. Adamo, Tampa	Julien C. Pate Jr., Tampa	1st Tues.	185
Indian River	Kip G. Kelso, Vero Beach	Vernon L. Fromang, Vero Beach	2nd Tues.	11
Jackson-Calhoun	Henry I. Langston, Marianna	Francis M. Watson, Marianna	Quarterly	17
Lake **Sumter*	Louis R. Bowen, Eustis	J. Basil Hall, Tavares	1st Wed.	30
Lee-Charlotte-Collier-Hendry	Baker Whisnant, Fort Myers	James L. Bradley, Fort Myers	3rd Mon.	39
Leon-Gadsden-Liberty-Wakulla-Jefferson	William L. Hunter, Monticello	Odis G. Kendrick Jr., Tallahassee	Quarterly	67
Madison	A. Franklin Harrison, Madison	Wallace E. Winter, Madison		6
Manatee	Marjorie L. Warner, Bradenton	Harvey C. Pauley Jr., Bradenton	2nd Tues.	30
Marion **Levy*	William H. Turnley, Ocala	Bertrand F. Drake, Dunnellon	3rd Tues.	30
Monroe	Ralph Herz, Key West	William R. Ploss, Key West	1st Thurs.	13
Nassau	David G. Humphreys, Fernandina Beach	John W. McClane, Fernandina Beach	Last Fri.	11
Orange **Osceola*	Don C. Robertson, Orlando	Walter A. Derrick, Orlando	3rd Wed.	192
Palm Beach	Edwin W. Brown, West Palm Beach	James R. Anderson, West Palm Beach	4th Mon.	141
Pasco-Hernando-Citrus	Harry G. Brownlee, Zephyrhills	W. Wardlaw Jones, Dade City	2nd Thurs.	17
Pinellas	Clyde O. Anderson, St. Petersburg	Whitman C. McConnell, St. Petersburg	1st Mon.	229
Polk	Samuel J. Clark, Lakeland	Marion W. Hester, Lakeland	2nd Wed.	99
Putnam	Grover C. Collins, Palatka	Alfred P. Peretti, Palatka	2nd Tues.	10
St. Johns	George C. Hopkins, St. Augustine	Reuben J. Plant Jr., St. Augustine	3rd Tues.	21
St. Lucie-Okeechobee-Martin	Henry E. Branca, Fort Pierce	Adrian M. Sample, Fort Pierce	3rd Thurs.	22
Sarasota	Melvin M. Simmons, Sarasota	Andrew J. Jesacher, Sarasota	2nd Tues.	60
Seminole	John M. Morgan, Sanford	Terry Bird, Sanford	2nd Tues.	20
Suwannee	William P. Blackmon, Mayo	Hiram B. Curry, Jasper	1st Sat.	10
Taylor **Dixie, Lafayette*	John H. Parker Jr., Perry	Ralph J. Greene, Perry	Last Fri.	5
Volusia **Flagler*	Robert L. Miller, Daytona Beach	Achille A. Monaco, Daytona Beach	2nd Tues.	85
Walton-Okaloosa	Richard H. Lee, Crestview	Frederic E. Caldwell, Fort Walton Beach	3rd Tues	20
Washington-Holmes	L. H. Paul, Bonifay	Bayllye W. Dalton, Chipley		5
				Total 2,771

**Supervise and aid until organized separately.*